



# “Effect of *Kustumbruadi Lepa* in The Management of *yuvanpidika* (*Acne vulgaris*)”

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## ABSTRACT

Being an eternal science, *Ayurveda* is the science of life. The main aim of ayurveda is to maintain a good health of a person, not only the cure of the disease. The face is window of the body, allowing us to speak with the planet around us. From the very beginning of civilization, the mankind has not only been conscious about health but also the physical appearance. Man has been beauty conscious, is clear by the very fact that we discover several references in ancient medical literature to cure cosmetic embellishment and use of beauty enhancers. In Ayurveda, the majority of infective and contagious disorders of skin are described under *kustha*, which is of two types- *Mahakustha* and *Kshudrakustha*. *MahaKustha* covers the skin diseases which are difficult to treat and *Kshudra Kustha* covers the remainder of infective pathologies of skin. Later, a new term *Kshudra Roga* was mentioned within the text, which incorporates the most disorders of skin except some. The Commonest face disfigurement in youth is *yuvanpidika*, which is one among the *Kshudra Roga*. According to *Acharya Sushruta*, the eruptions like *shalmali* thorn, on the face during adulthood, caused by *kapha*, *vata* and *rakta* are known as *yuvanpidika/ mukhadushika*. In modern science, *yuvanpidika* features are similar to those of *acne vulgaris*. Here in this article, we are going to discuss the efficacy of *kustumbruadi lepa*, which is mentioned in *Sushruta Samhita Chikitsa Sthana* for *Yuvanpidika* management.

**Keywords:** *Ayurveda*, *Kshudra Roga*, *Yuvanpidika*, *Kustumbruadi lepa*.

## INTRODUCTION

Face is considered as an important part of the body as far as beauty and look is concerned. Shakespeare said “A good face is the best letter of recommendation”. People at large express their personality and wisdom through the face. It had been said that “face is the index of mind”. The commonest face disfigurement in youth is *Yuvanpidika*, which is one among the *Kshudra Roga*. The *Yuvanpidika* term composed of two *sanskrit* words *yuvan* and *pidika*. *Yuvan* means adult or young and *pidika* means painful eruptions i.e., all about the painful eruptions that mostly occurs in young age. The others synonyms are *mukhadushika*, *tarunya pidika*. According to *Acharya Sushruta*, the eruptions like *shalmali* thorn, on the face during adulthood, caused by *kapha*, *vata* and *rakta* are known as *Yuvanpidika/mukhadushika*.<sup>[1]</sup> Almost all the major *ayurvedic* texts has described *Yuvanpidika* under the caption of *kshudra rogas*. In modern science, *Yuvanpidika* features are similar to those of *acne vulgaris*. *Acne vulgaris* is a chronic inflammation of the pilosebaceous units characterized by a polymorphic eruption of comedones, erythematous papules, pustules and nodules.<sup>[2]</sup> It occurs due to microbial colonization (*Propionibacterium acne*) and

imbalance status of androgen like hormones. Excessive use of cosmetics, mental stress, constipation, smoking, sweating, oral contraceptives are also considered as the aggravating factors. Acne is the major problem at the age puberty. According to the Global burden of disease (GBD) study, acne vulgaris affects 85% of young adults aged 12-25 years. Across the globe, acne vulgaris affects 80% of the individuals between pubescence and 30 years of age. Many research studies have reported acne 79-95 % in the age group of 16-18 years. In India, research studies have reported acne in 50.6 % of boys and 38.13 % of girls in age group of 12 to 17 years.<sup>[3]</sup> For treatment, modern medical science suggests hormonal therapy, antibiotics and some surgical or para-surgical measures, but their chemical compounds create adverse effects on the body. So, Natural Nontoxic remedies should be used to bring the skin into normal state by treating problem like *Yuvanpidika*. It is managed by *shamana*, *shodhana* and *bahyaprimarjan chikitsa*, keeping the cosmetic value of the disease it is important to seek out the safe and effective remedies for the disease. In today's hectic and fast life style, *bahyaprimarjan chikitsa* in the form of *lepa* selected, because of its fast effect on skin. Therefore, present study has been intended to evaluate the efficacy of *kustumbruadi lepa* in the management of *Yuvanpidika*.

## AIMS AND OBJECTIVES

1. To evaluate the efficacy of *Kustumbruadi lepa* as local application in the management of *Yuvanpidika*.
2. To collect literature of *Yuvanpidika* from different *Samhitas* in *Ayurveda*.
3. To understand and analyze the disease *Yuvanpidika* in relation with Acne-vulgaris.

## MATERIALS AND METHODS

### Selection of patients

According to the plan of study 30 patients with the symptoms of *Yuvanpidika*, Fulfilling the inclusion criteria were selected from O.P.D of Shri Krishna Govt. Ayurvedic College & Hospital, Kurukshetra. Ethical clearance (IEC/SKAU/2021/16) was obtained from the Institutional Ethical Committee and the trial was also registered under the Clinical Trial Registry of India (CTRI/2021/04/033277). Patients were registered after obtaining informed written consent. Total 35 patients enrolled in the study, 5 dropped out during the study. Hence data of 30 patients was used for statistical analysis.

### Criteria for selection of patients:

#### Inclusion criteria

- Male or female patient having sign and symptoms of *yuvanpidika*.
- The individuals between age 17 to 34 years and willing to give their written informed consent.

#### Exclusion criteria

- Pregnant or lactating women.
- Patient with severe eczema, psoriasis or any other major skin disorder.
- Patient with known hypersensitivity.
- Patient having *pidika* of other *kshudra roga* and *kustha* are excluded.
- Patient with severe hormonal disturbance.

### Diagnostic Criteria:

The following criteria were developed to select the cases on clinical ground which is based on the signs and symptoms, described in *ayurvedic* and modern text.

All the patients were assessed on the basis of assessment criteria as follows:

**A. Subjective Parameters:**

- *Sotha* (Swelling)
- *Shula* (Pain)
- *Srava* (Discharge)
- *Kandu* (Itching)
- *Vivarnata* (Discoloration)
- *Daha* (Burning sensation)
- Area involved

**B. Objective Parameters**

- Numbers of *pidika*
- Size of *pidika*
- Investigator global Assessment (IGA) of acne severity.

The patients registered under the trial were closely examined according to the proforma of the study. It includes name age, sex, marital status, socio-economic status, occupation, education, religion, diet & other general information about patients. After preliminary registration, patients were subjected to detailed case history and physical examination.

**Study design:** Randomized, Single Group, open label, clinical trial.

**Duration of trial:** Duration of the trial is 45 days.

**Follow up:** 3 follow ups at the interval of 15 days during treatment. 4th follow up after treatment of one month.

**Drugs**

*Kustumbruadi lepa* for external application were selected in the present study. The *lepa* was prepared from the herbs as mentioned in *Sushruta Samhita chikitsa sthana* (Su.chi.20/37) and said to be useful in *Yuvanpidika*.

**Table 01: Contents of *Kustumbruadi lepa*<sup>[4]</sup>**

Sr no	Constituents	Botanical name	Family name	Part used	Ratio
1	<i>Kustumbru/dhanyaka</i>	<i>Coriandrum sativum</i>	<i>Umbelliferae</i>	Seed	1 part
2	<i>Vacha</i>	<i>Acorous calamus</i>	<i>Araceae</i>	Root	1 part
3	<i>Lodhra</i>	<i>Symplocos recemosa</i>	<i>Symplocaceae</i>	Bark	1 part
4	<i>Kuth</i>	<i>Sassurea lappa</i>	<i>Compositae</i>	Root	1 part

**Preparation of drugs:**

- Raw drug samples for the study were identified and examined physically, macroscopically as per the standards of Ayurvedic Pharmacopoeia of India (API) in the P.G. Department of *Dravya-guna* of Shri Krishna govt. Ayurvedic college and hospital, Kurukshetra.
- All the drugs taken in equal quantity were cleaned properly and dried under sunlight. After complete drying of the drug, they were pulverized to make powder in Pharmacy of Shri Krishna govt. Ayurvedic college and hospital, Kurukshetra under the supervision of H.O.D of *Rasa shastra & Bhaisajya Kalpana*.
- The analysis of the drug was carried out in the OASIS TEST HOUSE LIMITED laboratory of Jaipur, Rajasthan.

**Administration of Drug**

Patients were advised to apply *Kustumbruadi Lepa* with simple water over the affected area (in proper quantity according to the size and area of involvement) after thoroughly cleaning the face. The *Lepa* is to be applied with a uniform thickness of 1/4th of own *angula* (approx. 1.92/4 cm). Once it starts to dry then it has to be cleaned. This has to be done twice a day preferably in the morning and evening time.

**Instructions to patients:****Pathya- Apathya (Regimen to be follow or restricted)**

- Patient had advised to take light, nutritious easily digestible food like *Shalidhanya, Tikta-rasapradhan-ahara, Naatisita, Naatiusnaahara*.
- To avoid spicy food, *Pittavardhaka Ahara, Divaswapna, Ratrijagarana, Vega Vidharana*, mental stress and anxiety.
- Do not pick, scrape, squeeze, or rub injuries. This can increase the damage to the skin. Wash your hands before and after skin care to lower your likelihood of getting infected.
- Don't touch your fingers, nails repeatedly on face. The skin of the face is irritated.
- Patients were advised to report any side effect with the use of medicine immediately.

**Criteria for Assessment**

Drug was given to the patients for 15 days and the changes in parameters were recorded after two weeks. The scoring pattern was adopted to assess the relief in each symptom as follows-

**Table 02 - The scoring pattern****Subjective Parameters:**

SYMPTOMS	GRADE	NO.
<i>Sotha</i>	No <i>sotha</i>	0
	Mild	1
	Moderate	2
	Severe	3
<i>Shula</i>	No pain	0
	Mild	1
	Moderate	2
	Severe	3
<i>Srava</i>	No <i>srava</i>	0
	<i>Lasika</i>	1
	<i>Puya</i>	2
	Both	3
<i>Kandu</i>	No <i>kandu</i>	0
	Mild	1
	Moderate	2
	Severe	3
<i>Vivarnata</i>	No <i>vivarnata</i>	0
	Mild	1
	Moderate	2
	Severe	3
<i>Daha</i>	No <i>daha</i>	0
	Mild	1
	Moderate	2
	Severe	3
Area involved	No any area involved	0
	Cheeks only	1

	Both cheek and chin	2
	Whole face and trunk	3

### Objective Parameters:

Numbers of <i>pidika</i>	No <i>pidika</i>	0
	Less than 5 on one side	1
	In between 6 to 10 on one side	2
	More than 10 on one side	3
Size of <i>pidika</i>	No <i>pidika</i>	0
	Less than 5 mm	1
	In between 6 to 10 mm	2
	More than 10 mm	3

### Investigator global Assessment (IGA) score of acne severity:

Sr No	Grade	Symptoms
0	Clear	Residual hyperpigmentation and erythema may be present
1	Almost clear	A few scattered comedones and a few small papules
2	Mild	Easily recognisable; less than half the face is involved. Some comedones and some papules and pustules
3	Moderate	More than half the face is involved. Many comedones, papules and pustules. One nodule may be present
4	Severe	Entire face is involved, covered with comedones, numerous papules and pustules, and few nodules and cysts

### Overall effect of therapy

Total effect of therapy was assessed considering overall improvement in signs and symptoms base on below criteria.

Result	%
Complete Remission	100% relief
Marked Improvement	>75% relief
Moderate Improvement	51% to 75% relief
Mild Improvement	25 % to 50 % relief
Unchanged	<25% or No relief

### Statistical analysis of data:

Statistical analysis was carried out by “Paired T test” for intragroup comparison of mean of various parameters before and after treatment. The result was interpreted at  $P < 0.05$ ,  $P < 0.01$  and  $P < 0.001$  at level of significance.

### OBSERVATIONS

Maximum 73.3% of patients were from age group between 17-25 years. Observations reveal dominance of female gender (83.3%) of Hindu religion (96.7%) from urban locality (80%) and from middle socio-economic status (50%). Maximum (70%) patients were taking vegetarian diet. Maximum (46.7%) patients had *Pittaj Prakriti*. *Madhyama Sara*, *Samhanana*, *Pramana*, *Satva* was observed in 66.7%, 43.3%, 73.3%, 66.7% of patients respectively. *Vishama agni* was observed in 33.3% of patients. 56.7% of patients had irregular bowel-habits. About 63.3% of the patients

had a habit of night awakenings. Heavy junk food was preferred by 76.7% of patients. 36.7 %, 56.7% of patients were found with moderate *sotha* and *shula* respectively. 40% of patients were found with *puya yukta srava*. 56.6%, 63.3%, 60.0% of patients were found with moderate *kandu*, *vivarnata*, *daha* respectively. All the patients had involvement of face out of these 23.3% of patients were having involvement of trunk. 53.3% of patients have more than 10 no. of *pidika* on one side of face. 46.7% of patients had *pidika* of size between 6 to 10 mm. 43.3% of patients were found with grade 3 of IGA score of acne severity.

### Effect of Therapy:

The data shows that after completion of trial patients got positive improvement. *Sotha*, *Shula*, *Srava* was reduced by 80.39%, 80%, 92.80% respectively. 92.30%, 73.13%, 84.61% improvement was observed in *Kandu*, *Vivarnata*, *Daha* respectively. No. and size of *pidika* was relieved by 84.50%, 80.35% respectively. 81.96 % and 86.70 % improvement were found in area-involved and IGA score of acne severity. Relief in all the symptoms found statistically highly significant ( $P < 0.001$ ).

**Table 03: Intragroup comparison of mean of subjective and objective parameters among studied subjects. (Paired T Test)**

Parameter – Time interval	Mean Diff	S.D diff	S.E Mean diff	% of improvement	T value	Df	P value
BT <i>Sotha</i> - AT <i>Sotha</i>	1.367	0.765	0.140	80.39%	9.786	29	0.000*
BT <i>Shula</i> - AT <i>Shula</i>	1.467	0.973	0.178	80.0%	8.254	29	0.000*
BT <i>Srava</i> - AT <i>Srava</i>	1.300	0.952	0.174	92.80%	7.477	29	0.000*
BT <i>Kandu</i> - AT <i>Kandu</i>	1.600	0.855	0.156	92.30%	10.250	29	0.000*
BT <i>Vivarnata</i> - AT <i>Vivarnata</i>	1.633	0.490	0.089	73.13%	18.252	29	0.000*
BT <i>Daha</i> - AT <i>Daha</i>	1.467	0.860	0.157	84.61%	9.337	29	0.000*
BT Area-involved - AT Area-involved	1.667	0.479	0.088	81.96%	19.039	29	0.000*
BT No. of <i>pidika</i> - AT No. of <i>pidika</i>	2.000	0.643	0.117	84.50%	17.029	29	0.000*
Bt size of <i>pidika</i> - AT size of <i>pidika</i>	1.500	0.509	0.093	80.35%	16.155	29	0.000*
BT IGA Score of acne severity - AT IGA Score of acne severity	2.400	.498	.091	86.70%	26.382	29	0.000*

\*Statistically highly significant

❖ **Photographs of the Patients Before and After Treatment**



**First Visit**



**Final Visit**

**Showing improvement in Case of *Yuvanpidika* (Case-1)**



**First Visit**



**Final Visit**

**Showing improvement in Case of *Yuvanpidika* (Case-2)**



**First Visit**



**Final Visit**

**Showing improvement in Case of *Yuvanpidika* (Case-3)**



**First Visit**



**Final Visit**

**Showing improvement in Case of *Yuvanpidika* (Case-4)**



**First Visit**



**Final Visit**

**Showing improvement in Case of *Yuvanpidika* (Case-5)**



## Overall effect of therapy

The observations reveal that 46.7% of patients showed marked improvement, 30% patients showed Complete Remission and 23.3% showed Moderate improvement. No one patient remain unchanged and with mild improvement.

**Table No 04: Overall Assessment: -**

S. No.	Percentage of improvement	No. of Patients	Percent %
1	Complete Remission (100% Relief)	09	30 %
2	Marked Improvement (>75% Relief)	14	46.7%
3	Moderate Improvement (51% to 75% Relief)	07	23.3%
4	Mild Improvement (25% to 50% Relief)	0	0%
5	Unchanged (<25% or No Relief)	0	0%
<b>Total</b>		<b>30</b>	<b>100 %</b>

## DISCUSSION:

Ayurveda describes the development of *Yuvanpidika* due to vitiation of *Vata*, *Kapha dosha*. These vitiated doshas further vitiates *Rakta dhatu*, which in turn leads to vitiation of *Medodhatu*. Due to this *Medodhatu dusti* excessive *sweda* is formed, which gets deposited in *romakoopa* and produce *swedavahasrotas dusti* which leads ultimately to *Yuvanpidika*. Medicines selected here for *bahyaprimarjan chikitsa* in the form of *lepa*, because of its fast effect on skin.

### Probable mode of action of *Kustumbruadi lepa*:

*Dhanyaka*, *Vacha* and *kuth* are having *ushna virya* property to counteract the aggravation of *vata* and *kapha*. The *sheeta viryata* of *Lodhra* is subside the aggravation of *Rakta* and *Pitta*. Moreover, *Dhanyaka* is *tridoshaj shamaka*, *shothahara* and *shulahara*, *Srotovishodhana* properties. *Dhanyaka* have antibacterial, antifungal, insecticidal effects, anti-inflammatory and analgesic effects, detoxification effect.<sup>[5]</sup> *Vacha* have *kapha-vata shamaka*, *lekhana* and *swedajanana* properties along with *vedana sthapaka*, *shothahara* and *Krimighna*. It has antimicrobial, anthelmintic, insecticidal, analgesic and anti-inflammatory effects.<sup>[6]</sup> *Lodhra* has *kapha pittahara*, *shothahara*, *kusthtagana*, *ropana*, *rakta-stambhaka* and *srava-stambhka* properties. It has anti-acne, anti-bacterial, anti-androgenic, analgesic and anti-inflammatory effects. Due to the *Pittashamak* properties of *Lodhra*, it pacifies the *Daha* produced due to *Pitta*. Because of *Kapha-Pittahara* properties of *Lodhra* along with its *Deepana* action, it prevents the vitiation of *Medogni* resulting in eruption of less number of *Pidika*.<sup>[7]</sup> *Kuth* have *vata-kapha shamaka*, *Daurgandhyanashna*, *Jantughan*, *Varnya*, *Kusthaghna*, *Shoolaprashamana*, *Raktasodhak*, *Lekhaniya*, *Vrishya*, *Vranashodhaka*, *Vranaropka* properties along with anti-bacterial, anti-androgenic, analgesic and anti-inflammatory effects.<sup>[8]</sup> The *shothahara* and *vednasthapana* action of almost all the drugs proved beneficial in swelling and pain. *Srotosodhana* is done by *Dhanyaka* and *vacha*. *Srotosodhana* is done by *Vacha* through its *lekhana* property, while drying up vitiated *kapha*. whereas *vrana-ropana* and *vrana-prakshalana* property of *Lodhra*. If *rakta* has stagnated to avoid pus formation *lepa* is beneficial, and *lepa* brings it back to normal colour it relieves from *daha*, *toda* and *kandu*. *Lepa* does *prahladana*, *sodhan*, *sothaharan*, *utsadan* and *ropan* of *vrana*. Thus, all this joint action of the drugs ceases the production of *pidika* and subsides the production of further acne at the site. So, it can be considered that *Kustumbruadi lepa*, by the above-mentioned properties, breaks down the *Samprapti* of the disease *Yuvanpidika* and improves the diseased condition.

**CONCLUSION**

*Yuvanpidika* occurs due to vitiation of *Kapha Dosha*, *Vata Dosha* and *Rakta Dhatu*. *Yuvanpidika* occurs mostly at the age of adolescence. Some causes like constipation, over use of cosmetics, addiction, oily skin, irregular menstrual cycle, Sedentary lifestyle, lack of exercise, intake of spicy, fried and salty food precipitates the issue due to vitiation of *rakta dhatu* which is the *ashrayasthana* of *pitta*. *Rakta* and *pitta* live in harmony with *ashraya-ashrayibhava*. So, factor responsible for *rakta dushti* leads to disease of *pitta dosha* especially skin disorders. The patients of *Pitta prakriti* are more prone to development of *Yuvanpidika*. Majority of patients were presented with the classical symptoms of *pidika*, *srava*, *kandu*, *daha*, *vaivarnaya* etc. However, some patients had shown papules, and nodules. The data supports the ignorance of disease in the initial phase by the patients leads to progression of disease from mild to moderate or severe grade. *Kustumbruadi Lepa* was found to have very significant effect on all symptoms of *yuvanpidika* due to its properties like *Tridosha shamaka*, *shothahara*, *kusthtagana*, *shulahara*, *Srotovishodhana*, *Jantughan*, *Varnya* etc. The result of the study showed that *kustumbruadi Lepa* is effective in reducing the symptoms of *Yuvanpidika* with p value <0.001. The results found were encouraging so any further study should be planned on a big sample to get the better outcome of research.

**REFERENCES:**

1. Shastri AD. Sushruta Samhita Ayurveda Tatva Sandipika. Varanasi: Chaukhamba Sanskrit Sansthan;2015. Nidana Sthana.ch- 13/38. P.372.
2. Munjal YP. API Textbook of Medicine (Eng). 10<sup>th</sup> ed. Mumbai: 2015.Vol 1.Ch. 5. P.685.
3. Kubba R, Bajaj A K, Thappa DM, Sharma R, Vedamurthy MDhar [et.al]. Acne and Quality of Life. Indian Journal of Dermatology, Venerology and Leprology: 2009. 75.Suppl SI :3.
4. Shastri AD, Singh PV. Sushruta Samhita Ayurveda Tatva Sandipika. Varanasi: Chaukhamba Sanskrit Sansthan; 2015. Chikitsa Sthana.ch- 20/37. P. 118.
5. Pathak NL, Kasture SB et.al. Phytopharmacological Properties of Coriander Sativum as a Potential Medicinal Tree: An overview. Journal of Applied Pharmaceutical Science 01 (04); 2011.P.20-25.
6. Sharma P.C. Yelne M.B. Dennis T.J. Database on Medicinal Plants Used in Ayurveda. New Delhi: Central Council for Research in Ayurveda & Siddha; 2002.Vol 1. P.469.
7. Hanumant U. Bhusnar, Dheeraj H. Nagore. Phytopharmacological profile of *Symplocos racemose*: A Review. Pharmacologia: volume 5(2): 76-83,2014.
8. Lucas D.S. Dravyaguna-Vijnana. Varanasi: Chaukhambha Visvabharati; 2015.Vol 2. P.240.