

ORIGINAL RESEARCH ARTICLE

A Comparative Clinical study of *Lakshadi Lepa* and *Panchanimba Ghana vati* in *Mukhdooshika* w.s.r to Acne Vulgaris

Divya Tiwari^{1*}, Anita Sharma², Sandeep Charak³

¹Medical Officer Directorate of Ayush, Government of Rajasthan, Rajasthan, India.

²Professor and HOD, Department of Agadtantra, National Institute of Ayurveda (*De nova*), Jaipur, Rajasthan, India.

³Medical Officer Directorate of Ayush, Government of Jammu and Kashmir, Jammu and Kashmir, India.

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ABSTRACT

Introduction: In *Ayurveda*, *mukhadushika* is mentioned under the heading of *Kshudra rogas*, characterized by *Shalmali* thorn-like eruption on the face due to vitiation of *kapha*, *vata*, and *rakta* in adolescence, called as *mukhdushika/yuvan pidika*. In this study, 2 trial drugs were taken for *Mukhdooshika* which has been mentioned in *Samhitaas*.

Aims and Objective: This study is to assess the efficacy of *Lakshadi Lepa* and *Panchanimbadi Ghana Vati* along with the comparison with Acnovin ointment and capAcnovin.

Materials and Methods: This study was an open randomized control clinical trial. Total 30 patients were selected and divided into 2 groups randomly 15 patients in each group, to compare the clinical efficacy of study drug Group A with study drug Group B along with *kumkumadi taila nasyam* for 1 month in the management of *Mukhdooshika* (Acne). The results of therapy have been evaluated by statistical methods in 2 steps. 1st step is evaluating within the group before and after treatment in both groups separately and in 2nd step the evaluations of inter-group/between 2 groups evaluation of both therapies.

Results: In both study and control group, 0% of patient showed excellent relief. 6.66% and 13.33% patients showed marked relief in study and control groups, respectively. 60% and 40% patients showed moderate relief in study and control groups, respectively. 33.33% and 46.66% patients showed mild relief in study group and control group, respectively, and the percentage of no relief patient was zero in both groups.

Conclusion: Both the study drugs are highly beneficial for *Mukhdushika*.

1. INTRODUCTION

“There is no single disease which causes more psychic trauma, more maladjustment between parents and children, more general insecurity and feelings of inferiority and greater sums of psychic suffering than does acne vulgaris.” --Sulzberger and Zaldems.

Beauty is the reflection of the personality of the individual. The first and foremost reflection of the person is face, and any disfigurement/scars of the face have a high impact on social and individual personality. Ample references are available regarding beauty tips in ancient popular *Ayurvedic*

Samhitas as well as in allied science. *Mukhdushika* is a pathological situation of the skin which is produced by the vitiation of *Kapha*, *Vata*, and *Rakta*.^[1] The disease predominantly afflicts the *Raktavaha Srotas*, *doshas* getting localized in the skin producing cardinal features such as *todayukta*, *Ghana*, and *Shalmalikantakavat Pidika*.^[2] The incidence of the disease is observed in *Yuvaavastha* throughout the world.

According to the Global Burden of Disease study, acne vulgaris affects ~85% of young adults aged 12–25 years. Acne consistently represents the top three most prevalent skin conditions in the general population, as found in large studies within the developed and developing countries.

Acne vulgaris is a distressing condition which is related to the pilosebaceous follicle. Although the disease is not a life-threatening

Corresponding Author:

Divya Tiwari,
Medical Officer Directorate of Ayush,
Government of Rajasthan, Rajasthan, India.
Email: divya_imsbhu@hotmail.com

one, it can be upsetting and disfiguring as it presents with papular, pustular, and cystic lesions more prominently on the face and in severe condition, it may cause permanent scars.

It is a well-known fact that the disease is not a medical emergency, but sensible treatment is required due to cosmetic importance. In the context of *Yuvana Pidika*, both *Shodhana* and *Shamana chikitsa* are explicated in the form of *Vamana*, *Raktamokshana*, *Lepa*, *Upanaha*, and oral medications.^[3] Among these, the drugs which consist of *Twak doshahara*, *Vedanahara*, *Shotahara*, and *Krimighna* properties are helpful in this. *Raktamokshana* in the form of *Jalaukavacharana* as a *shodhana chikitsa* can be helpful in the *Raktapradoshajanya* disease, *YuvanaPidika*. Taking all these into consideration, this study was planned to appraise the effect of *Laakshadi Lepa* and *Panchanimba Ghana vati*.

1.1. Aims and Objectives

Present research work has been undertaken with the following objectives:

1. Clinical evaluation of the role of proposed formulations, i.e., *Lakshadi Lepa* and *Panchanimba Ghana vati* along with *kumkumadi tailam nasya* in the management of *Mukhdooshika* (Acne)
2. To compare the clinical efficacy of study drug Group-A, i.e., *Lakshadi Lepa* and *Panchanimbadi Ghana vati* with study drug Group-B, i.e., Acnovin ointment and capsule Acnovin along with *kumkumadi taila nasyam* in the management of *Mukhdushika* (Acne).

2. MATERIALS AND METHODS

2.1. Drawing up the Protocol

This study was conducted under a strict protocol to prevent bias and to reduce the sources of error in the study.

2.2. Selection of Cases

The trial was conducted on 30 clinically diagnosed and confirmed cases of *Mukhdushika* selected from OPD/IPD of the OPD and IPD of PG Department of *Agad Tantra evam Vyavhar Ayurveda*, National Institute of *Ayurveda*, Jaipur, using randomized method of clinical trial.

2.3. Design of the Study

Randomized control study.

2.4. Method of Research

The present study was an open randomized clinical trial. Ethical clearance was obtained for the study from the Institutional Ethics Committee.

2.5. Informed Consent

The purpose of the study, nature of the study drugs, the procedures to be carried out, and the potential risks and benefits were explained to the patients in detail in non-technical terms. Thereafter, their written consent was taken before starting the procedure.

2.6. Criteria for Selection of Patients

For the clinical study, 30 patients were selected from the OPD and IPD of PG Department of *Agad tantra evam Vyavhar Ayurveda*, National Institute of *Ayurveda*, Jaipur. Voluntary written informed consent had

been taken from each subject before trial starts. Patients fulfilling the criteria for selection were integrated into the study irrespective of caste, religion, etc. A detailed history was filled up in dully prepared Performa on *Ayurveda* guidelines.

2.7. Method of Collection of Data

2.7.1. Plan of study

30 patients of *Mukhadushika* will be selected from OPD and IPD of NIA, Jaipur, after proper clinical examination. Then, all these patients will be divided into two groups randomly.

1. Study Group A – *The Lakshadi Lepa* and *Panchanimba Ghana vati* along with *Haritaki Churna* will be given to the selected 15 patients of *Mukhdushika* externally and orally, respectively, along with the *Pratimarsha Nasya of kumkumadi tailam*.
2. Study Group B – The ointment *UVA Acnovin* and Capsule *UVA Acnovin* along with *Haritaki Churna* will be given to the selected 15 patients of *Mukhdushika* externally and orally, respectively, along with the *Pratimarsha Nasya of kumkumadi tailam*.

All patients of either group will be advised for dietary regulation as certain eating habits and components of diet may aggravate the disease such as Fried and Greasy foods, Excess starches, Overeating, Alcohol, etc.

2.8. Criterias to be Adopted

2.8.1. Diagnostic criteria

Patients will be diagnosed on the basis of classical signs and symptoms of *Mukhdushika*.

2.8.2. Inclusion criteria

1. Patients of *Mukhdushika* of age groups of 15–30 years, either sex would be considered.
2. All patients of *Mukhdushika* having cardinal features as per *Ayurveda* and modern literature will be included in this clinical trial.
3. Some features of *Mukhdushika* are papules, pustules, black and white head, itching, redness, and inflammation around eruption.
4. Distribution of *Mukhdooshika* on to forehead, cheeks, nose, chin, and upper trunk.
5. (*Mukhdooshika*) eruption is <4 mm in diameter with central white dot.

2.8.3. Exclusion criteria

Following patients will not be considered

1. Diagnosed patients of carcinoma, burns, herpes, eczema, psoriasis, measles, chickenpox, leukoderma, and leprosy.
2. Patients diagnosed with major illnesses such as IHD, HTN, MI, TB, COPD, and DM would be excluded from trial.
3. Patients having systemic pathogenesis due to allergy.
4. Acne due to tubercular therapy or malignant cases.

2.9. Assessment Criteria

The effect of the management was re-assessed on the basis of findings given in [Table 1].

2.10. Signs and Symptoms of *Mukhdooshika*

[Table 2] shows involvement of *Doshas* according to different *Acharyas*.

For evaluating comparison between the presence of symptoms etc. before treatment and the presence or absence of signs and symptoms after treatment as per the research Performa will be done.

Table 3 represents comparison between the presence of symptoms etc. before treatment and the presence or absence of signs and symptoms after treatment as per the research Performa.

Table 4 shows Investigator's Global Assessment Scale for Acne Severity.

3. RESULTS

3.1. Intragroup Study

A. Effect on Subjective Parameters within Group for evaluating the effect of therapy within group before treatment and after treatment. For the subjective parameters, the Wilcoxon matched-pairs signed-ranks test has been used.

3.1.1. Effect of therapy on subjective parameter Group-A [Table 5]

- *Kandu* – In group-A, the percentage of relief was 42.86% and the effect of the therapy was extremely significant at $P = 0.0002$
- *Toda* – The percentage of relief was 47.99% and the effect of the therapy was extremely significant at $P = 0.0010$
- *Ghana* – The percentage of relief was 56.65% and the effect of the therapy was statistically extremely significant at $P = 0.0002$.

3.1.2. Effect of therapy on subjective parameter Group-B [Table 6]

- *Kandu* – In group-A, the percentage of relief was 64.34% and the effect of the therapy was extremely significant at $P \leq 0.0001$
- *Toda* – The percentage of relief was 58.80% and the effect of the therapy was extremely significant at $P \leq 0.0001$
- *Ghana* – The percentage of relief was 60.08% and the effect of the therapy was statistically extremely significant at $P \leq 0.0001$.

3.1.3. Effect of therapy on the distribution of acne lesion Group-A [Table 7]

- Forehead – In group-A, the percentage of relief was 77.79% and the effect of the therapy was extremely significant at $P = 0.0010$
- Nose – The percentage of relief was 56.87% and the effect of the therapy was extremely significant at $P = 0.0010$
- Right Cheek – The percentage of relief was 89.28% and the effect of the therapy was statistically extremely significant at $P \leq 0.0001$.
- Left cheek – The percentage of relief was 47.20% and the effect of the therapy was extremely significant at $P = 0.0005$
- Chin – The percentage of relief was 83.31% and the effect of the therapy was statistically extremely significant at $P = 0.0002$

3.1.4. Effect of therapy on the distribution of acne lesion Group-B [Table 8]

- Forehead – In group-A, the percentage of relief was 63.15% and the effect of the therapy was extremely significant at $P = 0.0001$
- Nose – The percentage of relief was 60.01% and the effect of the therapy was extremely significant at $P \leq 0.0001$
- Right Cheek – The percentage of relief was 46.87% and the effect of the therapy was statistically extremely significant at $P \leq 0.0001$
- Left cheek – The percentage of relief was 58.54% and the effect of the therapy was extremely significant at $P \leq 0.0001$
- Chin-The percentage of relief was 77.23% and the effect of the therapy was statistically extremely significant at $P = 0.0001$

4. INTERGROUP STUDY

Intergroup comparison of Subjective Parameters (details are mentioned in tables 9 and 10).

- To access the efficacy of two therapies intergroup comparison was done. As the variables are nonparametric we used Mann-Whitney Test for statistically analysis. The results are as follows
- *Kandu* – The P value of *Kandu* is 0.1564 which is statistically Not significant which shows that there is not any statistical difference in efficacy of both treatments.
- *Toda* – The P value of *Toda* is 0.0138 which is statistically significant which shows that there is statistical difference in efficacy of both treatments.
- *Ghana* – The P value of *Ghana* is 0.1560 which is statistically not significant which shows that there is not any statistical difference in efficacy of both treatments.
- Forehead – The P value of Fore head is 0.2025 which is statistically not significant which shows that there is not any statistical difference in efficacy of both treatments.
- Nose – The P value of Nose is 0.4515 which is statistically not significant which shows that there is not any statistical difference in efficacy of both treatments.
- Right Cheek – The P value of Right Cheek is 0.0682 which is statistically not significant which shows that there is not any statistical difference in efficacy of both treatments.
- Left Cheek – In case of Left Cheek the P value is 0.1856 which is statistically insignificant which shows that there is no statistical difference in efficacy of both treatments
- Chin – The P value of Chin is 0.3411 which is statistically insignificant which shows that there is no statistical difference in efficacy of both treatments.

Distribution of patient according to Severity in Mukhdushika Symptom [Table 11].

Distribution of patient according to Relief in Mukhdushika Symptoms [Table 12].

In both study and control group, 0% of patient showed excellent relief. 6.66% and 13.33% patients showed marked relief in study and control groups, respectively. 60% and 40% of patients showed moderate relief in study and control groups, respectively. 33.33% and 46.66% patients showed mild relief in study group and control group, respectively, and the percentage of no relief patient was zero in both groups [Graph 1].

5. DISCUSSION

Acne vulgaris is a common skin condition, caused by changes in pilosebaceous units, skin structures consisting of a hair follicle and in its more and its associated sebaceous gland, via androgen stimulation.^[4] It is characterized by noninflammatory follicular papules or comedones and by inflammatory papules, pustules, and nodules in its more severe form. Acne vulgaris affects the area of skin with the densest population of sebaceous follicles; these areas include the face, the upper part of the chest and the back. Severe Acne is inflammatory, but acne can also manifest in non-inflammatory forms.^[5] Acne lesions are commonly referred to as pimples, blemishes, spots, zits, or simply acne.

- *Mukhdushika* is a *twachagataroga*, occurs due to the vitiation of *Kapha*, *Vata*, and *Rakta*. Various etiological factors may develop *Dosha-Dusthi*, *Dhatu-Shaithilya*, *Khavaigunya*, and *Agnimandya* which leads to *Yuvana-Pidika*.^[6] Disease is the last outcome of all pathogenesis and the treatment is one that demolishes all steps of pathogenesis. As it says choosing a relevant drug for a disease means half the battle for treatment of that disease has been conquered.
- The first trial drug is the *Lakshadi Lepa*^[7] taken from *A.S.U*, the ingredients of this lepa have properties such as *Kushthagna*,

Varnya, *Kandunaashan*, and *Twakadoshahara*. As *Mukhdooshika* is a problem of the face and skin, this *lepa* is selected for the clinical study. This *lepa* has *Madhur-rasa*, *Snigdha*, *Ushna* properties, so it pacifies *vata dosha*.^[8] It had contents with *tikta-katu-rasa*, *katu-vipaka*, and *kapha-pittashamaka* properties. Due to the presence of dominant *Tikta-Rasa*, *katu rasa*, *ushna guna*, and *katu vipaka*, it has *Kaphashamka* properties. *Tikta-rasa* is also helpful for *Srotovishodhan*. On the basis of its *samprapti*, *dushyas* are *rasa*, *rakta*, and *meda*. *Sthanasmasrya* of the *doshas* takes place due to *dourbalya* of *Twacha*, *Rakta*, and *Meda* these influences *Swedawaha Srotovaigunyata*. Due to the continuation of *Nidanasevana*, the disease process leads to *swedawaha srotodusti*, where *sanga* at the *srotomula of vikrita-Sweda*, *Meda*, *Kapha*, and *Ama*.^[9] This vitiated *Kapha*, *Medas* gets dried up due to *Vata dosha* and this stage is considered to be a *dosha-dushyasamurchana*. This *lepa* has *ushna* and *snigdha guna* that pacifies *vata* and *kapha dosha*, *katu*, *tika*, and *kashaya rasa* pacify *kapha dosha*. Most of the contents of this formulation have property of *kaphapittashamaka*. Due to its *kaphapittashamak* property, this drug removes the blockage of *swedawaha shrotas*, i.e., created due to accumulation of *sweda*, *meda*, *kapha*, and *aama*. As we discussed earlier, contents of this *lepa* have *kaphpittaghna* properties because of this it removes the *sanga* of *shrotas* that occurs due to accumulation of *sweda*, *meda*, *kapha*, and *aama*. The *Lakshadi Lepa* has contents with properties of *raktaprasadana* which nourishes the skin and lighten the blemishes. Ingredients of this *lepa* are having properties such as *Kushthagha*, *Varnya*, *Kandunaashan*, and *Twakadoshahara*. Hence, this *lepa* brighten the complexion and help to remove the impurities of skin.

- Second drug is selected as drug for clinical trial on *Mukhdushika* is *Panchanimbadi Ghana Vati* which is taken from *Bhaishajya Ratnavali*. It will be prepared from aqueous extract of *churna* which will be better to purify the blood and pacify *rakta dusti* which is present in *Mukhdooshika*. As it has been discussed earlier that this *vati* contains all parts of *nimba*. It has *sheeta*, *laghu*, *grahi*, *katu*, *tikta agnikrut*, *vatakrut*, *aruchihara*, *krumihara*, *vranahara*, *pittakaphahara*, and *kushtahara* properties. This *vati* has *Snigdha*, *Ushna*, properties, so it pacifies *vata dosha*. Various parts of *Nimba* have contents with *tikta*, *katu rasa*, *katuvipaka*, and *kaphapittashamaka* properties. Due to the presence of dominant *Tikta Rasa*, *katu rasa*, *ushna guna*, and *katu vipaka*. It is effective for *Kaphashamana*. *Tikta Rasa* is helpful for *Srotovishodhan*. On the basis of its *samprapti*, *dushyas* are *rasa*, *rakta*, and *meda*. *Sthanasmasrya* of the *doshas* takes place due to *dourbalya* of *Twacha*, *Rakta*, and *Meda* these influences *Swedawaha Srotovaigunyata*. Due to continuation of *Nidanasevana*, the disease process leads to *swedawaha srotodusti*, where *sanga* at the *srotomula of vikrita Sweda*, *Meda*, *Kapha*, and *Ama*. This vitiated *Kapha*, *Medas* gets dried up due to *Vata dosha*, and this stage is considered to be a *dosha-dushyasamurchana*.^[10] This *vati* has *laghu* and *ruksha guna* that pacifies *kapha dosha*, *katu*, *tika*, and *kashayarasa* pacify *pitta* and *kapha dosha*. Most of the contents of this formulation have property of *kaphapittashamaka*. Due to its *kaphapittashamak* property, this drug removes the blockage of *swedawaha srotas*, i.e., created due to accumulation of *sweda*, *meda*, *kapha*, and *aama*. *Tikta rasa* is *shrotoshodhaka*. *Nimba* has the property of *kaphapittashamaka* thus, it removes the *sanga* of *srotas* that occurs due to accumulation of *sweda*, *meda*, *kapha*, and *aama*. *Panchanimba ghana vati* has the properties of *kandughna*, *krimighna*, and *twagdoshahara*. It is very effective in skin diseases such as acne, pimples, skin rashes,

boils urticaria, eczema, and black spots. It purifies the blood and promotes healthy skin with natural glow. Hence, it is overall good for the skin.

6. CONCLUSION

- There is no separate description available regarding *Mukhdushika* proper as disease in *Charaka Samhita*.
- *Acharya Sushruta* is the first person, who explained *Mukhdushika* as a disease separately among the 44 *Kshudra rogas*. In the *Sushruta nidana sthana* 13th chapter and in *Chikitsa sthana* 20th chapter, the description of *Nidana*, *Lakshana*, and Treatment of *Mukhdushika* is available. Hence, the *Mukhdushika* as a disease is not explained separately in any other major *Ayurvediya classics*.
- In the brief description available for the disease “*Mukhdushika*,” all the *Samhitas* have mentioned *Kapha*, *Vata*, *Rakta*, as the causative factors of the disease while *Bhavaprakasha* mentioned *swabhava* (*bhavaprakash*) as the cause of the disease.
- The *Kapha* and *Vata dusti* explained in the disease *Mukhdushika* is proved by the different symptoms presented in the patients of this study.
- The term *Mukhdushika* indicates that the prevalence of the disease in the *youvana* stage of the *madhyama avastha* is also observed in the present clinical study.
- The cardinal feature of the disease, *Shalmali kantakavat Pidaka*, *Toda*, and *Ghana Pidaka* were observed in all 30 patients.
- During this entire clinical trial, the patients of *Mukhdushika* w.s.r to acne vulgaris were managed without any adverse reactions and complications.
- There was no statistical difference in the clinical manifestation of *Mukhdushika* w.s.r to acne vulgaris in both groups, but before and after treatment, most of the clinical manifestation was controlled/improved in both groups.
- Although there was no significant difference statistically in study and control groups, clinical relief in patient belonging to study group was found better than control group.
- Although there is no significant difference statistically in view of number of *Mukhdushika* w.s.r to acne vulgaris patients after completion of 1-month therapy in both study and control groups. Overall patients were found improved with healthy and glowing skin during the entire clinical trial which is a big achievement for *Ayurveda*.
- The more severe patients of *Mukhdushika* showed a late response.
- No untoward toxic effects were observed during and after treatment

7. ACKNOWLEDGMENTS

Nil.

8. AUTHORS' CONTRIBUTIONS

All the authors contributed equally to the design and execution of the article.

9. FUNDING

Nil.

10. ETHICAL APPROVALS

The study was approved by the Institutional Ethical Committee of National Institute of Ayurveda, Jaipur by letter number IEC/ACA/2017/1 dated 26/04/2017.

11. CONFLICTS OF INTEREST

Nil.

12. DATA AVAILABILITY

This is an original manuscript, and all data are available for only review purposes from the principal investigators.

13. PUBLISHERS NOTE

This journal remains neutral with regard to jurisdictional claims in published institutional affiliations.

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GRAPHICAL REPRESENTATION

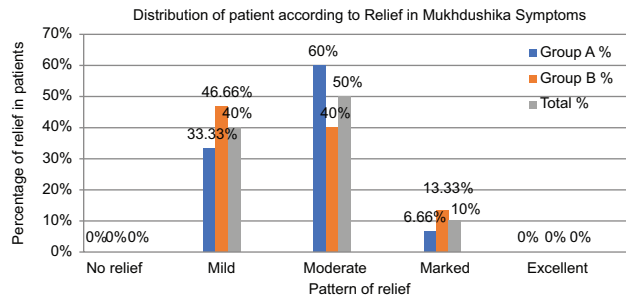


Table 1: The effect of the management was re-assessed on the basis of following findings

S.No.	Symptoms	No Symptoms	Mild	Moderate	Severe
1.	Shoatha	No shoatha	1	2	3
2.	Shula	No Pain	1	2	3
3.	Srava	No Srava	1	2	3
4.	Kandu	No kandu	1	2	3
5.	Vivarnata	No Vivarnata	1	2	3
6.	Daha	No Daha	1	2	3
7.	Area involved	-----	Cheeks only	Both cheeks & chin	Whole face & Trunk

Table 2: Symptoms, involvement of Doshas according to different Acharyas mentioned in the table below.

Symptoms	Sushruta	A.S	A.H	M.NI	Vangasena	Basava rajiyam	Gadanigraha	Bhavaprakash
Shalmalikantakarapidaka	+	+	+	+	+	+	+	+
Saruja	-	+	+	+	-	-	-	-
Ghana	-	+	+		-	-	-	-
Medogarbha	-	+	+	-	-	-	-	-
Kapha	+	+	+	+	+	+	+	+
Vata	+	+	+	+	+	+	+	+
Rakat	+	-	-	+	+	-	+	+

Table 3: Distribution of patient according to Severity in *Mukhdooshika* Symptom

Severity	Group A		Group B		Total	
	BT	AT	BT	AT	BT	AT
Mild	10	14	11	13	23	27
Moderate	3	1	3	2	6	3
Severe	2	0	1	0	3	0

Table 4: For evaluating comparison between presence of symptoms etc., before treatment and presence or absence of signs and symptoms after treatment as per the research Performa

Clinical assessment	Study Group A		Study Group B	
	Before T/T	After T/T	Before T/T	After T/T
Inflammatory Lesion (Grade 1-4)				
Clear or almost clear (1)				Residual hyperpigmentation and erythema may be present. A few scattered comedones and a few small papules.
Mild (2)				Easily recognizable; less than half the face is involved. Some comedones and some papules and pustules.
Moderate (3)				More than half of the face is involved. Many comedones, papules and pustules. One nodule may be present. Primarily Comedonal
Severe (4)				Entire face is involved. Covered with comedones, papules and pustules. Presence of nodules/cysts.

Table 5: Effect on Subjective Parameters within Group Effect of therapy on Subjective parameter Group-A

Variable	Mean		Mean diff.	% Relief	SD±	SE±	P	Result
	BT	AT						
<i>Kandu</i> (Itching)	2.333	1.333	1.000	42.86%	0.5345	0.1380	0.0002	ES
<i>Toda</i> (Pain)	1.667	0.8667	0.800	47.99%	0.5606	0.1447	0.0010	ES
<i>Ghana</i> (Induration)	2.000	0.8667	1.133	56.65%	0.6399	0.1652	0.0002	ES

Table 6: Effect of therapy on Subjective parameter Group-B

Variable	Mean		Mean diff.	% Relief	SD±	SE±	P	Result
	BT	AT						
<i>Kandu</i> (Itching)	2.067	0.7333	1.333	64.34%	0.6172	0.1594	<0.0001	ES
<i>Toda</i> (Pain)	2.267	0.9333	1.333	58.80%	0.4880	0.1260	<0.0001	ES
<i>Ghana</i> (Induration)	2.333	0.9333	1.400	60.08%	0.5071	0.1309	<0.0001	ES

Table 7: Effect of therapy on Distribution Of Acne Lesion Group-A

Variable	Mean		Mean diff.	% Relief	SD±	SE±	P	Result
	BT	AT						
Fore head	2.400	0.5333	1.867	77.79%	1.995	0.5152	0.0010	ES
Nose	1.876	0.8000	1.067	56.87%	0.7988	0.2063	0.0010	ES
Right Cheek	3.733	0.4000	3.333	89.28%	2.469	0.6375	<0.0001	ES
Left Cheek	2.400	1.267	1.133	47.20%	0.7432	0.1919	0.0005	ES
Chin	1.600	0.2667	1.333	83.31%	0.8165	0.2108	0.0002	ES

Table 8: Effect of therapy on Distribution Of acne Lesion Group-B

Variable	Mean		Mean diff.	% Relief	SD±	SE±	P	Result
	BT	AT						
Fore head	3.800	1.400	2.400	63.15%	1.502	0.3879	0.0001	ES
Nose	2.333	0.9333	1.400	60.01%	0.8281	0.2138	<0.0001	ES
Right Cheek	4.267	2.267	2.000	46.87%	0.8452	0.2182	<0.0001	ES
Left Cheek	2.733	1.133	1.600	58.54%	0.8281	0.2138	<0.0001	ES
Chin	1.467	0.333	1.133	77.23%	0.5164	0.1333	0.0001	ES

Table 9: Intergroup comparison of therapy's effect on IGA Scale for Acne Severity

Variable	Mean Diff.		SD±		SE±		P	Result
	Group A	Group B	Group A	Group B	Group A	Group B		
<i>Kandu</i> (Itching)	1.000	1.333	0.5345	0.6172	0.1380	0.1594	0.1564	NS
<i>Toda</i> (Pain)	0.8000	1.333	0.5606	0.4880	0.1447	0.1260	0.0138	S
<i>Ghana</i> (Induration)	1.133	1.467	0.6399	0.5167	0.1652	0.1333	0.1560	NS

Table 10: Intergroup comparison of therapy's Effect on IGA Scale for Acne Severity

Variable	Mean Diff.		SD±		SE±		P	Result
	Group A	Group B	Group A	Group B	Group A	Group B		
Fore head	1.867	2.400	1.995	1.502	0.5152	0.3879	0.2025	NS
Nose	1.067	1.400	0.7988	0.8281	0.2063	0.2138	0.4515	NS
Right Cheek	3.3333	2.000	2.469	0.8452	0.6375	0.2182	0.0682	NQS
Left Cheek	1.133	1.600	0.7432	0.8281	0.1919	0.2138	0.1856	NS
Chin	1.333	1.067	0.8165	0.5936	0.2108	0.1533	0.3411	NS

Table 11: Distribution of patient according to Severity in *Mukhdushika*
Symptoms

Severity	Group A		Group B		Total	
	BT	AT	BT	AT	BT	AT
Mild	10	14	11	13	23	27
Moderate	3	1	3	2	6	3
Severe	2	0	1	0	3	0

Table 12: Distribution of patient according to Relief in *Mukhdushika*
Symptoms

Relief	Group A		Group B		Total	
	Patient	%	Patient	%	Patient	%
No relief	0	0%	0	0%	0	0%
Mild	5	33.33%	7	46.66%	12	40%
Moderate	9	60%	6	40%	15	50%
Marked	1	6.66%	2	13.33%	3	10%
Excellent	0	0%		0%	0	0%