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"A CLINICAL STUDY ON EFFICACY OF SIDDHARTHAKADI LEPA & SARIVA CHURNA IN THE MANAGEMENT OF YAUVANA PIDIKA W.S.R. TO ACNE-VULGARIS"

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Abstract

Yauvana Pidika is a very common disease observed during puberty creating disfigurement of the face. Hence It is alternately called as Mukh-dooshika or Tarunya Pitika. The features of the disease Yauvana pidika are similar to those of acne. Among the ayurvedic amenities, Acharya sushruta was the first and foremost to mention a whole group of such disease of the skin which have adverse effect on the appearance and personality of an individual and having surgical and parasurgical measures as its cure. He named three ailments as "KSHUDRA ROGA". Yauvana Pidika is one of them. Cosmetology has been discussed and numerous references & formulations indicated in our classics shall help to regain the lost beauty and revive the personality.Here,treatment is focusd by using simple herbal formulation to combat Yauvanpidika. Randomised controlled trial is preferred for the study. Aim: To Study the efficacy of Siddharthakadi Lepa individually & in combination with Sariva churna in treating the Yauvana Pidika.Objectives: To evaluate role of Siddharthakadi Lepa individually & in combination with internal administration of Sariva Churna.To evaluate the effect of trial drug with external application of Tretinoin & internal administration of vitamin 'A'.Methods-Group A (Siddharthakadi Lepa) and Group B (Siddharthakadi Lepa and Sariva Churna). Group C (Siddharthakadi Lepa and Sariva Churna with external application of Tretinoin & internal administration of vitamin 'A'). 30 patients were selected randomly in each group.Result - The Group B (Siddharthkadi lepa & Sariva churna) was more effective & long lasting than in treating Yauvana pidika. Discussion–Topical application of Siddhathkadi lepa& oral intake of Sariva churna in group B & Group C with topical application of tretinoin & oral intake of vitamin A in the form of capsules, performances of both groups were noted to be almost equal. However, recurrence rate was noticeable in group C during follow up.

Key Words: Acne vulgaris, Kshudrarog, Siddhathkadi lepa, Sariva churna. Yauvanpidika. ,tretinoin

INTRODUCTION

In the current scenario of the people are very much sensitive and conscious about their health as well as beauty. In the fast world of today, there is a race for cosmetics at the same time adverse factors like changing life style, junk food habits, air pollution, mental stress etc damages human skin especially the facial skin which is much thinner and more sensitive than the whole body skin. This causes degenerative and ineffective changes in the skin. Following this, there is increased demand in the field of dermatology and cosmetology to prevent and cure the skin problem. Pharmaceutical propaganda in the name of 'Saundarya prasadhana' to promote the

fairness has made the condition worse. But, when we look at ayurveda for this problem, we have the best choice, because ayurveda the 'Science of Longevity' promotes positive health, natural beauty and long life.Thus health and beauty are two faces of the coin. Face is most important and beautiful organ as described by acharyas in 56 upangas which reflects the personality of the person. This most important and beautiful organ is affected by certain anomalies during adolescent phase of life. This is said to be wonder years of an individual's life , as during this age most of changes occur in the body. Anomalies may create non attractive look leading to permanent disfigurement of the face. These further results in inferior complex and sometimes even isolation in the social life. From the number of various diseases related to skin explained in Ayurveda, 'Yauvana Pidika, i.e. Elevations on the skin like shalmali thorn arises on the face containing pus, blood, and also having pain redness and it regresses with the black spot on the face. This is a very common disease observed during puberty creating disfigurement of the face. Hence It is alternately called as Mukh-dooshika or Tarunya Pitika. The name of the disease itself is suggestive of its nature and occurrence.Among the ayurvedic amenities, Acharya sushruta was the first and foremost to mention a whole group of such disease of the skin which have adverse effect on the appearance and personality of an individual and having surgical and parasurgical measures as its cure. He named three ailments as "KSHUDRA ROGA". Yauvana Pidika is one of them, which affects the beauty as well as personality and it has cosmetic importance. This may be the reason behind the absence of such category of diseases in charaka samhita as it deals with only medicinal measures. In the samhita vitiated doshas for pathogenesis of Yauvana Pidika are mentioned as vata, kapha and raktadushti. There is no direct mention of pitta, so here raktdushti can be directly related to pitta dushti as there is aashrayashrayi sambhand between rakta and pitta. Vitiation of pitta dosha is responsible for blood disorder or raktaj vyadhi. So it is to be kept in mind that vitiated pitta is very important causative factor in any skin disease such as Yauvana Pidika. So we have to consider pittadushti along with vata, kapha and rakta dushti.The features of the disease Yauvana pidika are similar to those of acne. It can be co-related to ACNE-VULGARIS referred as pimples, spots & zits observed during puberty are defined as chronic inflammatory dertmatosis consists of keratinized cells, sebum & bacteria in modern science. Modern measures regarding the treatment of acne vulgaris are more or less failure. Although for prevention of the further infection, dislodging of black heads and to moisturize the skin, various preparations are in practice like vaccine therapy, antibiotics, internal use of vitamin-A and cosmetic lotions for external application. Sometimes, X-Ray, ultraviolet radiation therapies are also in practice, corticosteroid has revolutionized the treatment but its manifold side effects and temporary relief has limited the therapy. In addition to these limitations of medicinal measures, the course of Yauvana Pidika is chronic with frequent remissions & exacerbations. The disease has tendency to flare up during certain period of life too. All these facts necesitiates searching alternate and better remedy from the natural resources like herbs and other ayurvedic measures. In ayurveda as described above, Cosmetology has been discussed and numerous references & formulations indicated in our classics shall help to regain the lost beauty and revive the personality.

AIM & OBJECTIVE

AIM:

To Study the efficacy of Siddharthakadi Lepa individually & in combination with Sariva churna in treating the Yauvana Pidika.

OBJECTIVE:

1. To evaluate role of Siddharthakadi Lepa individually & in combination with internal administration of Sariva Churna.
2. To evaluate the effect of trial drug with external application of Tretinoin & internal administration of vitamin 'A'.

MATERIAL AND METHODS

Clinical study

The patients with classical signs and symptoms of Yauvana pidika were randomly selected by preset inclusion and exclusion criteria from the Kayachikitsa OPD of Yashwant Ayurveda Hospital,Kodoli,India .Subjects were selected by Randomized method after ethical clearance.

Study Design:

Table. No. 1: Study Design Pattern

	Trial Group'A'	Trial Group 'B'		Control Group 'C'	
Drug	Siddhart-hakadi Lepa	Siddhartha-kadi Lepa	Sariva Churna	Tretinoin	Vitamin 'A'
Kalpana	Lepa	Lepa	Churna	Ointment	Capsule
Matra	afLocal Applicati-on OD	Local Application OD	2 gm Bid	Local Applicati-on OD	25,000 IU Bid
Kal	Prathakal	Prathakal	Adhobh-akta	Prathakal	Adhob-hakta
Anupana	-	-	Jal		Jal
No. of Patients	30	30		30	
Duration	30 days	30 Days		30 Days	
Study Type	Randomized control trial study.				

Referance of trial drug- Yogratnakar Kshudrarogachikitsa (4/5)(For Siddharkadi lepa),Rajnighantu Chandanadi Varga (Shlok119)(For Sariva churna)

Inclusion Criteria

- Patients with Pidikas, resembling shalmalikantak having medogarbha associated with either of Ruja-srava, kandu, Daha, vivarnyata.
- Age Group: 16 to 40 Yrs.
- Either sex.

Exclusion Criteria

- Patients having pidikas of the other kshudraroga, Visarpa, Prameha ,Sheeta-Pitta, masurika etc.
- Patients prediagonsed with disorders like diabetes mellitus, hyper sensitive skin conditions & long term medication like OCP.
- Pregnant Women.
- Patients unwilling for treatment.

❖ **Withdrawal Criteria**

- Adverse reaction (If any)

Follow up:

During the treatment two follow up were conducted to at the interval of 15 days to ensure the compliance to the treatment and assessment. One follow up was done after the completion of the treatment for the assessment of preset criteria's.(DT -15days, AT – 30 day &FU– 45 days)

Reoccurrence:

Reappearance of the symptoms within follow up (45^{th} Day) period were considered as recurrence of the disease.

Common pathya chart was given to all patients and instructed them to strictly follow the same for evaluation of results.

Consent:

A written consent of all willing patients included in the trials were taken in language best understood by them.

Criteria of Assessment

- **Subjective Parameters**
  - i. **Rooja**

    RoojaRahit - 0

Kwachit Rooja - 1
Aniyamit Rooja - 2
Niyamit Rooja- 3

ii. **Daha**

DahaRahit - 0
Kwachit Daha - 1
Aniyamit Daha - 2
Tivra Daha - 3

iii. **Shotha**

ShothaRahit - 0
Alpa Shotha - 1
Madhyam Shoth - 2
Full Face with Shoth- 3

iv. **Paka**

PakaRahit - 0
Kwachit Paka - 1
Madhyam Paka - 2
Gambhir Paka - 3

- **Objective Parameters**

v. **Raktima**

RaktimaRahit - 0
Alpa lesions of Raktima - 1
Madhyam Raktima - 2
Full Face with Raktima - 3

vi. **Pidika**

PidikaRahit - 0
Alpa Pidika (0-5) - 1
Madhyam Pidika (6-15) - 2
Pravara Pidika (16-25) - 3
Atyaadhik Pidika (25 & above)- 4

OBSERVATION & RESULTS

For present clinical study, 96 patients were registered. The patients were divided in to three groups i.e. 32 Patients in group A, 33 patients in group B & 31 patients in group C randomly.

Table No. 2 Distribution of patients registered in each group.

SL	Groups	Patients Registered	Discontinued	Completed
1	**Group A**	32	2	30
2	**Group B**	33	3	30
3	**Group C**	31	1	30

Out of 96 patients, 90 patients completed the duration of the treatment. 6 Patients could not continued & left treatment in between.

Observation

Each group contain 30 patients.All patients completed the treatment.In present study among 90 patients, maximum numbers of 32patients (35.56%) were in 1620 yea rs, 26 patients (28.89%) were in 2125years of age group. Charaka says that, during the age of 16-30 years, all the dhatus undergo increase in their quantity & especially shukra dhatu starts functioning at this stage. In this stage of life person becomes more chanchala and there in predominance of Pitta·Among 90 patients, maximum numbers of 55patients (61.11%) were students in adolescent age group. Particularly,inthis age group hormonal changes play a major role. Maximum numbers of 54 patients (60%) were female and 36 patients (40%) were male. This would be because of the early onset of puberty in females. In

present study among 90 patients, 44 patients (48.89%) were of mixed food habits, 37(41.11%) patients were reported with vegetarian food habits and rests of 9 (10%) patients were non-vegetarian food habits. As such there is no proven and specific food which triggers yauvana pidika. The excessive intake of oily substances vitiates the meda, where as excessive intake of irritant and spicy (Tikshna), food article vitiates pitta and rakta doshas induces the aggravation of vata dosha. In present study among 90 patients, maximum numbers of 52 (57.78%) patients were unmarried and 38 (42.22%) patients were married. Among 90 patients in the study, 48 (48.33%) patients were having madhyama satmya. i.e. excess indulgence in 3-4 rasas. Among 90 patients who have completed the treatment, maximum number of 43 (47.78%) patienst were belongs to Vata-Kaphaj prakriti, followed by 26 (28.89%). In present study, among 90 patients, maximum 36 (40%) patients were having sama-agni, which denotes complete equilibrium of doshas as per its birth constitution and 22 (24.44%) patients were having well manda-agni. Further, 20 (22.22%) patients were belonging to vishama agni and 12 (13.33%) of tikshna agani. Among 90 patients, 46 (51.11%) had history of gradual development of erruptions and remaining 44 (48.89%) patients had sudden development of acne. In present study among 90 patients, maximum number 63 (70%) patients were reported with black headed pidika & remaining 27 (30%) patients were reported with white headed pidika. In the present study of 90 patients, maximum number patients i.e 52 (57.78%) were reported with bahul strava & 38 patients (42.22%) patients were having alpa strava. During the study of 90 patients, It is observed that maximum number of 41 patients(45.56%) were with supti-shula type of vedana, 30 patients (33.33%) had burning sensetion i.e. daha.Only 19 (21.11%) patients were had kandu.In present study among 90 patients maximum numbers of 32 patients(35.5%) were having Shyava Varna and 29 patients (32.22%) were having Krishna Varna. 28 (31.11%) patients were reported with rakta varna. And single case was registered with sweta varna. In the present study among 90 patients, maximum number 38 (42.22%) of patients were having khara sparsha, followed by 19 (21.11%) patients were having ruksha sparsha & 17(18.89%) patients were having Klinna sparsha. Remaining 16 (17.78%) were having sotha bahal sparsha. In the present study, among 90 patients, maximum number of 41 (45.56%) patients had no relation of seasonal variation in acne, 7 (7.78%) had relation with menstrual changes where as 14 patients had seasonal changes in disease typically during summer and winter. It is also noted that 28(31.11%) patients had effect of sunlight. In present study among 90 patients, maximum number of 57 (63.33%) patients reported with no family historyof acne. 33 (36.67%) patienst had the family history with their parents.

STATISTICAL ANALYSIS

1. Effect on Pidika.

- **Comparison of Mean Pidika grade between Day "0" & Day "30" by Paired "t"Test for each group.**

Table. No.3. Comparison of Mean Pidika grade for each group.

	B.T. (Day 0)			A.T. (Day 30)			Significance P Value
Gr.	Mean	S.D.	S.E.	Mean	S.D.	S.E.	
A	2.30	0.952	0.174	0.733	0.907	0.166	S, P<0.001
B	2.533	0.819	0.150	0.133	0.434	0.079	S, P<0.001
C	2.533	0.937	0.171	0.20	0.484	0.0884	S,P<0.001

- **Comparison of the result of Group A & B after treatment (Day 30) by Mann Whitey U test.**

Table. No.4. Comparison of Mean Pidika grade for Gr. A & B

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance P value
A	0.733	0.907	0.166	293.000	S, P=0.003
B	0.133	0.434	0.079		

- **Comparison of the result of Group B & C after treatment (Day 30) on Pidika by Mann Whitey U test.**

Table. No.5. Comparison of Mean Pidika grade for Gr. B & C

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
B	0.133	0.434	0.079	479.000	NS, P=0.730
C	0.20	0.484	0.0884		

- **Comparison of the result of Group A, B & C after treatment (Day 30) on Pidika by ANOVA (F-Test).**

Table No. 6. Comparision of mean Pidika on day 30 among Gr. A, B & C.

Group	Mean	S.D.	S.E.	Significance P value
A	0.733	0.907	0.166	Significant P = 0.003
B	0.133	0.434	0.079	
C	0.20	0.484	0.0884	

- **Mean percentage Reduction Study of Mean Pidika grades compared to basal.**

Table No.7. % Reduction Study of pidika as compared to basal.

Days	Mean values			Reduction (FU-Basal)			% Reduction (FU-Basal)		
	A	B	C	A	B	C	A	B	C
"0"	2.30	2.53	2.53	Not Applicable			Not Applicable		
"15"	1.40	0.67	0.63	0.90	1.87	1.90	39.13	73.67	75.01
"30"	0.73	0.13	0.20	1.57	2.40	2.33	68.13	94.75	92.10
"45"	0.50	0.17	0.23	1.80	2.37	2.30	78.26	93.41	90.80

Table. No.8. Recurrence Rate of Pidika on Day 45.

	Group A	Group B	Group C
NP. Cured A.T.	17	27	25
NP. with Recurrence at F.U.	2	1	2
% Rate of recurrence.	11.76%	3.70%	08.00%

2. Effect on Rooja.

- **Comparison of Mean Rooja grade between Day "0" (BT) & Day "30" (AT) by Paired "t"Test for each group.**

Table. No.9. Comparison of Mean Rooja grade for each group.

	B.T. (Day 0)			A.T. (Day 30)			Significance & P Value
Gr.	Mean	S.D.	S.E.	Mean	S.D.	S.E.	
A	2.0	0.695	0.127	0.433	0.626	0.114	S, P<0.001
B	1.60	0.675	0.123	0.0667	0.254	0.0463	S, P<0.001
C	2.3	0.702	0.128	0.1	0.305	0.0557	S, P<0.001

- **Comparison of the result of Group A & B after treatment (Day 30) on Rooja by Mann Whitey U test.**

Table.No.10. Comparison of Mean Rooja grade for Gr. A & B

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
A	0.433	0.626	0.114	313.000	S,P=0.005
B	0.0667	0.254	0.0463		

- **Comparison of the result of Group B & C after treatment (Day 30) on Rooja by Mann Whitey U test.**

Table.No.11. Comparison of Mean Rooja grade for Gr. B & C

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
B	0.0667	0.254	0.0463	465.000	NS, P=0.654
C	0.1	0.305	0.0557		

- **Comparison of the result of Group A, B & C after treatment (Day 30) on Rooja by ANOVA (F-Test).**

Table.No.12. Comparision of mean Rooja on day 30 among Gr.A, B & C.

Group	Mean	S.D.	S.E.	Significance P value
A	0.433	0.626	0.114	Significant / P = 0.003.
B	0.0667	0.254	0.0463	
C	0.1	0.305	0.0557	

- **Mean percentage Reduction Study of mean Rooja grades compared to basal.**

Table No.13. % Reduction Study of Rooja grades as compared to basal.

Days	Mean values			Reduction (FU-Basal)			% Reduction (FU-Basal)		
	A	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
"0"	2	1.6	2.3	Not Applicable			Not Applicable		
"15"	0.73	0.30	0.40	1.27	1.30	1.90	63.35	81.25	82.61
"30"	0.43	0.07	0.10	1.57	1.53	2.20	78.35	95.83	95.65
"45"	0.43	0.07	0.10	1.57	1.53	2.20	78.35	95.83	95.65

Table No.14. Recurrence Rate of Rooja on Day 45.

	Group A	Group B	Group C
NP. Cured A.T.	19	28	27
NP. with Recurrence at F.U.	1	1	3
% Rate of recurrence	5.26%	3.57%	11.11%

3. Effect on Daha.

- **Comparison of Mean Daha grade between Day "0" (BT) & Day "30" (AT) by Paired "t"Test for each group.**

Table No.15. Comparison of Mean Daha grade for each group.

	B.T. (Day 0)			A.T. (Day 30)			Significance & P
Gr.	Mean	S.D.	S.E.	Mean	S.D.	S.E.	
A	1.767	0.935	0.171	0.433	0.568	0.104	S, P<0.001
B	1.60	1.003	0.183	0.067	0.254	0.046	S, P<0.001
C	1.367	1.033	0.189	0.10	0.305	0.056	S, P<0.001

- **Comparison of the result of Group A & B after treatment (Day 30) on Daha mann whitney U test.**

Table No.16. Comparison of Mean Daha grade for Gr. A & B

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
A	0.433	0.568	0.104	299.000	S,P=0.002
B	0.067	0.254	0.046		

- **Comparison of the result of Group B & C after treatment (Day 30) on Daha by Mann whitney's U test.**

Table No.17. Comparison of Mean Daha grade for Gr. B & C

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
B	0.067	0.254	0.046	465.000	NS, P=0.552
C	0.10	0.305	0.056		

- **Comparison of the result of Group A, B & C after treatment (Day 30) on Daha by ANOVA (F-Test).**

Table No.18. Comparison of mean Daha on day 30 among Gr. A, B & C.

Group	Mean	S.D.	S.E.	Significance P value
A	0.433	0.568	0.104	Significant / P = 0.001
B	0.067	0.254	0.046	
C	0.10	0.305	0.056	

- **Mean percentage Reduction Study as compared to basal on Daha.**

Table No.19. % Reduction Study of Daha grades as compared to basal.

Days	Mean values			Reduction (FU-Basal)			% Reduction (FU-Basal)		
	A	B	C	A	B	C	A	B	C
"0"	1.77	1.60	1.37	Not Applicable			Not Applicable		
"15"	0.80	0.40	0.30	0.97	1.20	1.07	54.80	75.00	78.05
"30"	0.43	0.07	0.10	1.34	1.53	1.27	75.54	95.83	92.68
"45"	0.20	0.07	0.13	1.57	1.53	1.23	88.70	95.83	90.27

Table No.20. Recurrence Rate of Daha on Day 45.

	Group A	Group B	Group C
NP Cured A.T.	18	28	27
NP with Recurrence at F.U.	1	0	1
% Rate of recurrence	5.55%	0.00%	3.70%

4. Effect on Shotha

- **Comparison of Mean Shotha grade between Day "0" (BT) & Day "30" (AT) by Paired "t"Test for each group.**

Table No.21. Comparison of Mean Shotha grade for each group.

	B.T. (Day 0)			A.T. (Day 30)			Significance / P.
Gr.	Mean	S.D.	S.E.	Mean	S.D.	S.E.	
A	1.167	1.020	0.186	0.50	0.938	0.171	S, P<0.001
B	1.40	0.932	0.170	0.067	0.254	0.046	S, P<0.001
C	1.30	1.055	0.193	0.067	0.254	0.046	S, P<0.001

- **Comparison of the result of Group A & B after treatment (Day 30) on Shotha by Mann whitney's U Test.**

Table No.22. Comparison of Mean Shotha grade for Gr.A & B

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance / P value
A	0.50	0.938	0.171	368.000	NS,P=0.052
B	0.067	0.254	0.046		

- **Comparison of the result of Group B & C after treatment (Day 30) on Shotha by mann whitney's u test.**

TableNo.23. Comparison of Mean Shotha grade for Gr.B & C

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
B	0.067	0.254	0.046	450.000	NS, P=0.986
C	0.067	0.254	0.046		

- **Comparison of the result of Group A, B & C after treatment (Day 30) on Mean Shotha grades by ANOVA (F-Test).**

Table No.24. Comparision of mean Shotha on day 30 among Gr. A, B & C.

Group	Mean	S.D.	S.E.	Significance P value
A	0.50	0.938	0.171	Significant / P = 0.0047.
B	0.067	0.254	0.046	
C	0.067	0.254	0.046	

- **Mean percentage Reduction Study as compared to basal on Shotha.**

Table No. 25. % Reduction Study of Shotha grades as compared to basal.

Days	Mean values			Reduction (FU-Basal)			% Reduction (FU-Basal)		
	A	B	C	A	B	C	A	B	C
"0"	1.167	1.4	1.3	Not Applicable			Not Applicable		
"15"	0.67	0.33	0.43	0.50	1.07	0.87	42.59	76.21	66.69

"30"	0.50	0.07	0.07	0.67	1.33	1.23	57.16	95.21	94.85
"45"	0.13	0.00	0.10	1.03	1.40	1.20	88.60	100.00	92.31

Table No.26. Recurrence Rate of Shotha on Day 45.

	Group A	**Group B**	**Group C**
NP.Cured A.T.	23	28	28
NP. with Recurrence at F.U.	1	0	2
% Rate of recurrence	4.34%	0%	7.14%

5. Effect on Paka

- **Comparison of Mean Paka grade between Day "0" (BT) & Day "30" (AT) by Paired "t"Test for each group.**

Table No.27. Comparison of Mean Paka grade for each group.

	B.T. (Day 0)			**A.T. (Day 30)**			**Significance & P Value**
Gr.	**Mean**	**S.D.**	**S.E.**	**Mean**	**S.D.**	**S.E.**	
A	1.20	0.961	0.176	0.30	0.466	0.085	S, P<0.001
B	1.087	0.828	0.151	0.067	0.256	0.046	S, P<0.001
C	1.267	0.980	0.179	0.033	0.183	0.033	S, P<0.001

- **Comparison of the result of Group A & B after treatment (Day 30) on Paka.**

Table No.28. Comparison of Mean Paka grade for Gr. A & B

Group	**Mean**	**S.D.**	**S.E.**	**Mann Whitney –U Statics**	**Significance & P value**
A	0.30	0.466	0.085	345.000	S,P=0.0021
B	0.067	0.256	0.046		

- **Comparison of the result of Group B & C after treatment (Day 30) on Paka.**

Table No.29. Comparison of Mean Paka grade for Gr. B & C

Group	**Mean**	**S.D.**	**S.E.**	**Mann Whitney –U Statics**	**Significance & P value**
B	0.067	0.256	0.046	435.000	NS,P=0.570
C	0.033	0.183	0.033		

- **Comparison of the result of Group A, B & C after treatment (Day 30) on Paka by ANOVA (F-Test).**

Table No.30. Comparision of mean Paka grades on day 30 among Gr. A,B & C.

Group	**Mean**	**S.D.**	**S.E.**	**Significance P value.**
A	0.30	0.466	0.085	Significant / P = 0.004.
B	0.067	0.256	0.046	
C	0.033	0.183	0.033	

- **Percentage Reduction Study as compared to basal on Paka.**

Table No.31 % Reduction Study of Paka as compared to basal

Days	Mean values			Reduction (FU-Basal)			% Reduction (FU-Basal)		
	A	B	C	A	B	C	A	B	C
"0"	1.20	1.07	1.27	Not Applicable			Not Applicable		
"15"	0.47	0.20	0.24	0.73	0.87	1.03	61.08	81.26	81.45
"30"	0.30	0.07	0.03	0.90	1.00	1.23	75.00	93.72	97.40
"45"	0.10	0.07	0.10	1.10	1.00	1.17	91.67	93.72	92.11

Table No.32. Recurrence Rate of Paka on Day 45.

	Group A	Group B	Group C
NP. Cured A.T.	22	28	29
NP. with Recurrence F.U.	2	0	2
% Rate of recurrence.	9.09%	0%	6.89%

6. Effect on Raktima.

- **Comparison of Mean Raktima grade between Day "0" (BT) & Day "30" (AT) by Paired "t"Test for each group.**

Table No.33 Comparison of Mean Raktima grade for each group.

	B.T. (Day 0)			A.T. (Day 30)			Significance & P
Gr.	Mean	S.D.	S.E.	Mean	S.D.	S.E.	
A	1.50	1.042	0.19	0.433	0.817	0.149	S, P<0.001
B	1.233	0.568	0.104	0.033	0.183	0.033	S, P<0.001
C	1.233	0.971	0.177	0.20	0.484	0.088	S, P<0.001

- **Comparison of the result of Group A & B after treatment (Day 30) on Raktima by mann whitney's U Test.**

Table No.34. Comparison of Mean Raktima grade for Gr.A & B

Group	Mean	S.D.	S.E.	Mann Whitney –U Statics	Significance & P value
A	0.433	0.817	0.149	343.000	S,P=0.011
B	0.033	0.183	0.033		

- **Comparison of the result of Group B & C after treatment (Day 30) on Raktima by Mann whitney's U test.**

Table. No.35. Comparison of Mean Raktima grade for Gr.B & C

Group	Mean	S.D.	S.E.	Mann Whitney – U Statics.	Significance & P value
B	0.033	0.183	0.033	510.000	NS,P=0.088
C	0.20	0.484	0.088		

- **Comparison of the result of Group A, B & C after treatment (Day 30) on Raktima by ANOVA (F-Test).**

Table No.36. Comparision of mean Raktima grades on day 30 among Gr. A, B &C.

Group	Mean	S.D.	S.E.	Significance P value.
A	0.433	0.817	0.149	Significant P = 0.038.
B	0.033	0.183	0.033	
C	0.20	0.484	0.088	

- **Mean percentage Reduction Study as compared to basal on Raktima.**

Table No.37. % Reduction Study of mean raktima grades as compared to basal.

Days	Mean values			Reduction (FU-Basal)			% Reduction (FU-Basal)		
	A	**B**	**C**	**A**	**B**	**C**	**A**	**B**	**C**
"0"	1.50	1.23	1.233	Not Applicable			Not Applicable		
"15"	0.77	0.10	0.37	0.73	1.13	0.87	48.87	91.89	70.24
"30"	0.43	0.03	0.20	1.07	1.20	1.03	71.13	97.32	83.78
"45"	0.17	0.00	0.13	1.33	1.23	1.10	88.87	100.00	89.21

Table No. 38. Recurrence Rate of Raktima on Day 45.

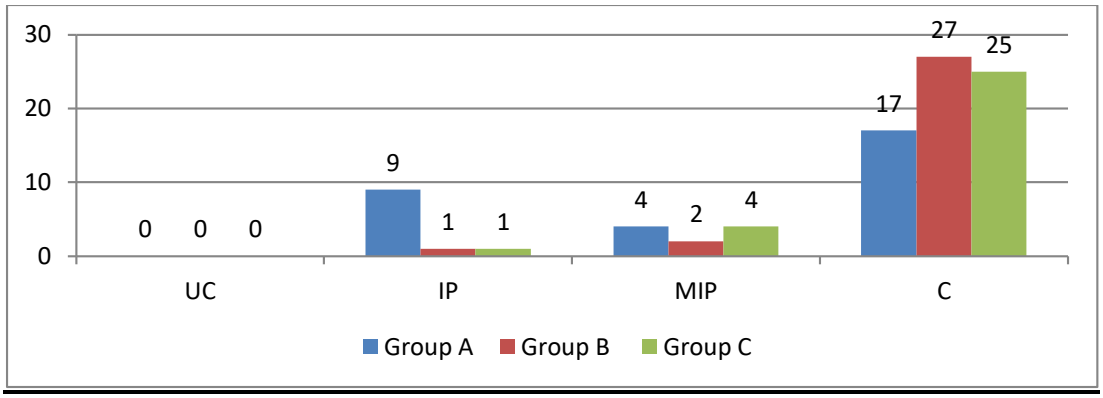
	Group A	Group B	Group C
NP. Cured A.T.	22	29	25
NP. With Recurrence on F.U.	2	0	2
% Rate of recurrence	9.09%	0%	8%

- **Overall Response of Therapy on Yauvana Pidika**

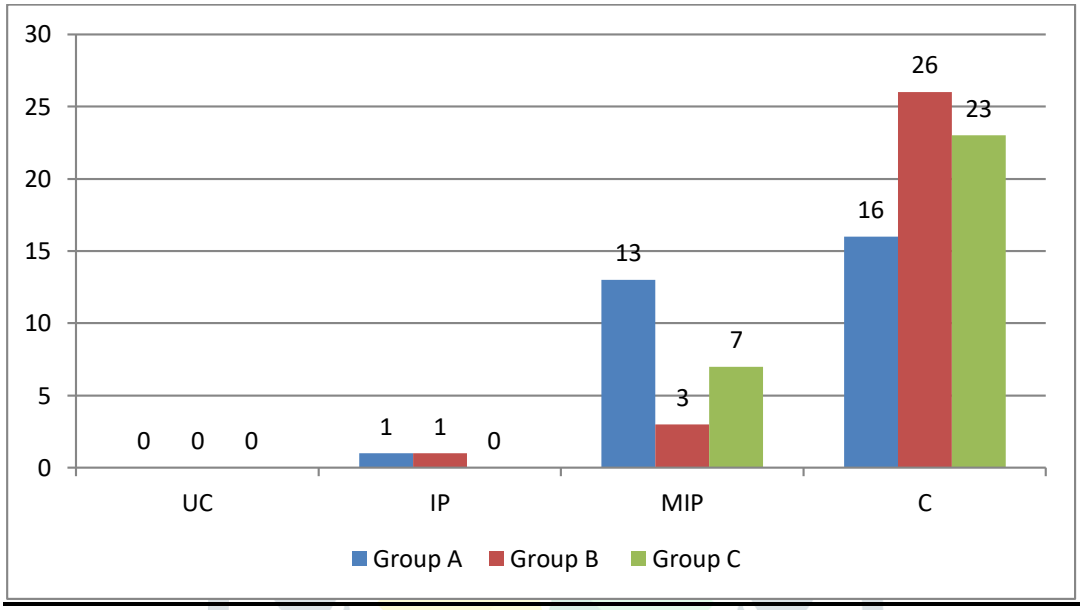
Table No.39.Overall Response of Therapy on Yauvana Pidika

SL	Result	Group A				Group B				Group C			
		AT	%	FU	%	AT	%	FU	%	AT	%	FU	%
1	**UC**	0	0	0	0	0	0	0	0	0	0	0	0
2	**IP**	9	30	1	3	1	3	1	3	1	3	0	0
3	**MIP**	4	13	13	43	2	7	3	10	4	13	7	23
4	**C**	17	57	16	53	27	90	26	87	25	83	23	77

Graph No.1. Overall effect of therapy on Yauvana Pidika (A.T.)



Graph No.2. Overall effect of therapy on Yauvana Pidika (F.U.)



DISCUSSION

Discussion of Statistical Results
Effect therapy on Pidika:

- As it is seen from statistical results, that all the three treatment modalities are significantly effective on reducing the number of pidika, when analyzed individually after completion of treatment. (Value of $P<0.05$ in all the three groups).Further, deep analysis of mean value of group B indicates that treatment modality of group B in reducing pidika are more effective than group A & C.
- After comparison with Group A& B, Significant difference is noted between two treatment modalities viz. Group A & group B (value of $P<0.05$). Further, after comparing the mean scores of pidika for group A (Mean =0.73) & group B (Mean = 0.133), Effect of treatment in group B is said to be better than group A.
- On the similar lines, Group B & C were also compared, which signifies the no difference in the both the treatment modalities (value of $P>0.05$). However, Further, after comparing the mean scores of pidika for group B (Mean =0.133) & group C (Mean = 0.20), Effect of treatment in group B is said to be little better than group C.
- Results of three groups on pidika after treatments were subjected to ANOVA (F-Test). It indicate the significant difference among the treatment modalities of three groups with value of $P=0.003$ i.e. $P<0.05$.
- Mean percentage reduction with reference to basal study was carried out to ascertain the impact of the treatment modalities on each group per follow up. It also indicates that percentage reduction in group B after treatment was 94.75%.
- On day 45, Follow up was targeted to review the reliability & longetivity of treatment after completion. Results are favorable in case of treatment with lepa and sariva churna i.e for group B than

other two groups. Single case of recurrence in the number of pidika was reported in group B. Further, 2&2 patients were subsequently reported in group A & C respectively on day 45. It is also visible from percentage reduction study as compared with basal and rate of recurrence study that minimum percentage (3.70%) recurrence was reported among the patients exposed to treatment in group B.

Effect therapy on Rooja:

- As it is seen from statistical results, that all the three treatment modalities are significantly effective on reducing the rooja, when analyzed individually after completion of treatment. (Value of $P<0.05$ in all the three groups). Further, deep analysis of mean value of group B indicates that treatment modality of group B in reducing rooja is more effective than group A & C.
- After comparison with Group A& B, Significant difference is noted between two treatment modalities viz. Group A & group B (value of $P<0.05$). Further, after comparing the mean scores of Rooja for group A (Mean =0.433) & group B (Mean = 0.067), Effect of treatment in group B is said to be better than group A.
- On the similar lines, Group B & C were also compared, which signifies the no difference in the both the treatment modalities (value of $P>0.05$). However, Further, after comparing the mean scores of rooja for group B (Mean =0.067) & group C (Mean = 0.10), Effect of treatment in group B is said to be little better than group C.
- Results of three groups on rooja after treatments were subjected to ANOVA (F-Test). It indicate the significant difference among the treatment modalities of three groups with value of $P=0.003$ i.e. $P<0.05$.
- Mean percentage reduction with reference to basal, study was carried out to ascertain the impact of the treatment modalities on each group per follow up. It also indicates that mean percentage reduction in group B after treatment was 95.83%.

- On day 45, Follow up was targeted to review the reliability & longetivity of treatment after completion. Single case of recurrence in the number of rooja was reported in group B. Further, 1 &3 patients were subsequently reported in group A & C respectively on day 45. It is also visible from percentage reduction study as compared with basal and rate of recurrence study that least (3.57%) recurrence was reported among the patients exposed to treatment in group B.

Effect therapy on Daha:

- As it is seen from statistical results, that all the three treatment modalities are significantly effective on reducing the Daha, when analyzed individually after completion of treatment. (Value of $P<0.05$ in all the three groups). Further, analysis of mean value of group B indicates that treatment modality of group B in reducing daha, is more effective than group A & C.
- After comparison with Group A& B, Significant difference is noted between two treatment modalities viz. Group A & group B (value of $P<0.05$). Further, after comparing the mean scores of daha for group A (Mean =0.433) & group B (Mean = 0.067), Effect of treatment in group B is said to be better than group A.
- On the similar lines, Group B & C were also compared, which signifies the no difference in the both the treatment modalities (value of $P>0.05$). However, Further, after comparing the mean scores of daha for group B (Mean =0.067) & group C (Mean = 0.10), Effect of treatment in group B is said to be better than group C.
- Results of three groups on daha after treatments were subjected to ANOVA (F-Test). It indicate the significant difference among the treatment modalities of three groups with value of $P=0.001$ i.e. $P<0.05$.
- Mean percentage reduction as to basal, study was carried out to ascertain the impact of the treatment modalities on each group per follow up. It also indicates that percentage reduction in group B after treatment was 95.83%.
- On day 45, Follow up was targeted to review the reliability & longetivity of treatment after completion. No single case of recurrence in the daha was reported in group B. Further, Single case of recurrence was reported in group A & C respectively on day 45. It is also visible from percentage reduction study as compared with basal and rate of recurrence study that no (0%) recurrence was reported among the patients exposed to treatment in group B.

Effect therapy on Shotha:

- As it is seen from statistical results, that all the three treatment modalities are significantly effective on reducing the Shotha, when analyzed individually after completion of treatment. (Value of P<0.05 in all the three groups).Further, analysis of mean value of group B indicates that treatment modality of group B in reducing shotha is equally effective as C & better than Group A..
- After comparison with Group A & B, Significant difference is noted between two treatment modalities viz. Group A & group B (value of P<0.05). Further, after comparing the mean scores of Shotha for group A (Mean =0.50) & group B (Mean = 0.067), Effect of treatment in group B is said to be better than group A.
- On the similar lines, Group B & C were also compared, which signifies the no difference in the both the treatment modalities (value of P>0.05). However, Further, after comparing the mean scores of shotha for group B (Mean =0.067) & group C (Mean = 0.067), Effect of treatment in group B & C are said to be equally effective.
- Results of three groups on Shotha after treatments were subjected to ANOVA (F-Test). It indicate the significant difference among the treatment modalities of three groups with value of P=0.047 i.e. P<0.05.
- Mean percentage reduction as compared to basal, study was carried out to ascertain the impact of the treatment modalities on each group per follow up. It also indicates that percentage reduction in group B after treatment was 95.21%.
- On day 45, Follow up was targeted to review the reliability & longetivity of treatment after completion. No single case of recurrence in the shotha was reported in group B. Further, 1 & 2 patients were subsequently reported in group A & C respectively on day 45. It is also visible from percentage reduction study as compared with basal and rate of recurrence study that no (0%) recurrence was reported among the patients exposed to treatment in group B.

Effect therapy on Paka:

- As it is seen from statistical results, that all the three treatment modalities are significantly effective on reducing the Paka, when analyzed individually after completion of treatment. (Value of P<0.001 in all the three groups).Further, analysis of mean value of group C with the rest of the groups indicates that treatment modality of group C in reducing paka is more effective than group B& C.
- After comparison with Group A& B, Significant difference is noted between two treatment modalities viz. Group A & group B (value of P<0.05). Further, after comparing the mean scores of paka for group A (Mean =0.3) & group B (Mean =0.067), Effect of treatment in group B is better than group A.
- On the similar lines, Group B & C were also compared, which signifies the no difference in the both the treatment modalities (value of P>0.05). However, Further, after comparing the mean scores of Paka for group B (Mean =0. 067) & group C (Mean = 0.033), treatment modalities of group B & C are equally effective.
- Results of three groups on Paka after treatments were subjected to ANOVA (F-Test). It indicate the significant difference among the treatment modalities of three groups with value of P=0.004 i.e. P<0.05.
- Mean percentage reduction with reference to basal study was carried out to ascertain the impact of the treatment modalities on each group per follow up. It also indicates that percentage reduction in group C after treatment was 97.40%.
- On day 45, Follow up was targeted to review the reliability & longetivity of treatment after completion. No single case of recurrence in the paka was reported in group B. Further, 2& 2 patients were subsequently reported in group A & C respectively on day 45. It is also visible from percentage reduction study as compared with basal and rate of recurrence study that no (0%) recurrence was reported among the patients exposed to treatment in group B.

Effect therapy on Raktima:

- As it is seen from statistical results, that all the three treatment modalities are significantly effective on reducing the raktima, when analyzed individually after completion of treatment. (Value of

P<0.001 in all the three groups).Further, analysis of mean value of group B indicates that treatment modality of group B in reducing raktima is more effective than group A & C.

- After comparison with Group A & B, Significant difference is noted between two treatment modalities viz. Group A & group B (value of P<0.05). Further, after comparing the mean scores of raktima for group A (Mean =0.433) & group B (Mean =0.033), Effect of treatment in group B is better than group A.
- On the similar lines, Group B & C were also compared, which signifies the no difference in the both the treatment modalities (value of P>0.05). However, Further, after comparing the mean scores of raktima for group B (Mean =0.033) & group C (Mean = 0.20), Effect of treatment in group B is better than group C.
- Results of three groups on raktima after treatments were subjected to ANOVA (F-Test). It indicate the significant difference among the treatment modalities of three groups with value of P=0.038 i.e. P<0.05.
- Mean percentage reduction with reference to basal study was carried out to ascertain the impact of the treatment modalities on each group per follow up. It also indicates that percentage reduction in group B after treatment was 97.32%.

- On day 45, Follow up was targeted to review the reliability & longetivity of treatment after completion. No single case of recurrence in the raktima was reported in group B. Further, 2& 2 patients were subsequently reported in group A & C respectively on day 45. It is also visible from percentage reduction study as compared with basal and zero rate of recurrence study that treatment modality of group B is better than A & C.

Probable mode of action of Drugs

Siddharthakadi lepa is combination of four drugs i.e. siddharthaka (swetasarshap), vacha, lodhra, saindhava. Action of the drugs is as follow,

1. Siddharthaka (Sweta Sarshapa): It's katuushna guna's, lead it to acts as kapha-vatashamaka & by applying it externally, it helps in ripening the pidika by removing kapha-raktadushti. It is also krimighna and varnyakar i.e. it provides complexion to the skin.

2.Vacha: Vacha being katu & ushna, it is kaph-vatashamaka & pitta vardhak. Hence, if applied externally, It acts as vedanastapaka & shothahara. As mentioned above, it is pitta vardhak which helps in ripening the pidika and reduces kaph & raktadoshas. Oil present in vacha has effect on streptococcus spore & tubercle bacillus. According to Bhaishjyagunavigyana, vacha is having krimighana, jantughna, shoolghana & antibiotic, mamsapeshi saithilyakar properties. Further, due to its tikta rasa, it is kaphachedaka, dosh shodhaka, meda, puyashoshaka and also does lekhan karma.

3.Lodhra: In this lepa, Lodhra is said to have grahi, sheetal, raktastmbhaka, shelshmaghna & shodhaghna properties. Due to these properties, Blood capillaries contracts and stops the bleeding there by shrinking & strengthening the sleshmatwacha. This act further reduces the production of shleshma.

4.Saidhava Lavana: It is vataghna being ushna property. By applying externally, it helps in vranprakshalana & vranadoshahar. It is also noted for its avidhahi property therefore even after applying externally, burning sensation doesn't arise.

Further, Siddharthakadi lepa is to be prepared in the milk (Godugha). Snigdha guna of the milks helps in quick absorption of the lepa. If additive is not with snighdha guna, lepa dries quickly thereby generating pain [04]. Every preparation of lepa should be homogenous. As stated by acharya Vagabhatta, Dugdha has sheetal property, hence it is vatapittaghna. Hence, siddhrthkadi lepa with godugdha helps in vata-pittaj shaman.

Accordingly, Siddharthakadi lepa is acting as tri-doshashamaka, helping in reducing the acne.

Probable Mode of Action of Sariva Churna

Sariva churna given orally, It does the vata shaman by its madhura and snighdha, pittashamanan by sheet veerya and kaphashaman by tikta rasa. Hence, it is said to be tri-doshashamaka i.e. it pacifies all the doshas.

Due to guru-snigdha property & madhura rasa, this drug acts on vitiated kapha dosha as well as vata dosha and minimizes the vitiation of rakta and meda dhatu. It is also acts as raktaprasadaka, which purifies the blood, rejuvenates the skin.

Oral intake of the sariva in the body, it acts as appetizers & improves the digestion. In turn, it reduces the ama production in the body there by improving agni & helps to break the pathogenesis of the disease. it also does srotoshodhana.

Overall Effect of Therapy on Yauvana Pidika

According to above mention actions, Overall effect was better in the group B on yauvana pidika, where patients were subjected to treatment with topical application of siddhrthakadi lepa & oral administration of sariva churna. It is also cleared during the study that maximum patients under group B (90%) were cured than that of the A (63.33%) &C (86.67%).

Further, after study of patients in group B with topical application of siddhathkadi lepa& oral intake of sariva churna & Group C with topical application of tretinoin & oral intake of vitamin A in the form of capsules, performances of both groups were noted to be almost equal. However, recurrence rate was noticeable in group C during follow up.

Hence, It can be said that effect of Group B is better than group A in action as well as maintaining the results for long.

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CONCLUSION

It is concluded that effect of group B is better than group A. referring the control group C, It is concluded that effect of Group B & C are equal, however recurrence was noticeable in group C than A & B. Hence, It is said that effect of Siddharthkadi lepa & Sariva churna more effective & long lasting than in treating Yauvana pidika.

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