

**ROLE OF KOSHTHASHUDDHI IN AUGMENTING EFFECT OF CHANDRASHAKALADI VATAKA RASAYANA AND CHANDAMARUTAM IN THE MANAGEMENT OF EKA-KUSHTHA (PSORIASIS)**Akash S. Changole\*<sup>1</sup> and Mandip Goyal<sup>2</sup><sup>1</sup>MD Scholar, Department of Kayachikitsa.<sup>2</sup>Associate Professor, Department of Kayachikitsa, Institute for Post Graduate Teaching and Research in Ayurveda, Gujarat Ayurved University, Jamnagar, Gujarat, India.

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**ABSTRACT**

*Eka-Kushtha* is a variety of *Kshudra Kushtha* with dominancy of *Vata* and *Kapha Dosha* and is characterized by symptoms like- *Aswedanam*, *Mahavastum* and *Matsyashakalopama*, having similarity with Psoriasis. Due to its chronic and recurrent nature, it has a great impact on the quality of life of the patients. The present study was aimed to study the role of *Koshthashuddhi* in augmenting effect of *Chandrashakaladi Vataka Rasayana* and *Chandamarutam* used as external application in the patients of *Eka-Kushtha* (Psoriasis). The selected patients were randomly divided into two groups. In *Koshtha Shuddhi Rasayana* group (Group KSR), *Koshthashuddhi* was done by administration of *Haritakkyadi Yoga*, after *Snehapana* followed by administration of *Chandrashakaladi Vataka Rasayana* and external application of *Chandamarutam Malahara* for 30 days. In Second Group R (*Rasayana* Group) patients were treated with *Chandrashakaladi Vataka Rasayana* and external application of *Chandamarutam Malahara* for 30 days without *Koshthashuddhi*. The improvement provided, were assessed on the basis of relief in signs and symptoms which were assigned scores, assessed before and after the treatment. PASI score and DLQI score were assessed before and after treatment. Both the groups provided highly significant results in all signs, symptoms and other parameters. However *Koshthashuddhi* followed by administration of *Chandrashakaladi Vataka* along with external application of *Chandamarutam Malahara* was more effective.

**KEYWORDS:** *Eka-Kushtha*, *Koshthashuddhi*, *Chandrashakaladi Vataka Rasayana*, *Chandamarutam Malahara*, Psoriasis.

**INTRODUCTION**

*Kushtha Roga* is a chronic disease and one among the eight *Mahagadas*.<sup>[1]</sup> *Eka-Kushtha* can be correlated with Psoriasis due to its characteristic features like *Matsyashakalopamam* (Silvery fish like scale) and *Mahavastum* (extensive surface area involved) especially in Plaque Psoriasis. The modern treatments given for Psoriasis have their own limitations and side effects. Above all, the chronic and recurrent nature of the disease leaves a great psychological impact on patients. It disturbs the quality of life of the patients to a great extent. Hence it was thought that if proper *Shodhana* and *Rasayana* drug are given in such condition, better results may be obtained. For the purpose of *Koshthashuddhi*, *Haritakkyadi Yoga* mentioned in Charaka Samhita *Rasayana Pada* was selected<sup>[2]</sup> and for the purpose of local application *Chandamarutam Malahara*<sup>[3]</sup> was used. For the purpose of *Shamana* and *Rasayana* *Chandrashakaladi Vataka Rasayana*<sup>[4]</sup> was used orally.

**AIMS AND OBJECTIVES**

To evaluate role of *Koshthashuddhi* in augmenting the effect of *Chandrashakaladi Vataka Rasayana* and *Chandamarutam Malahara* in the management of *Eka-Kushtha*. (Psoriasis).

**OBJECTIVES**

1. To study the aetiology, pathology, symptomatology & progress of *Eka-Kushtha* (Psoriasis)
2. To demonstrate the safety of drug to find out adverse effect if any.

**MATERIALS AND METHODS****SELECTION OF DRUGS**

Trial drug *Haritakkyadi Yoga* and *Chandrashakaladi Vataka* are herbal formulation in the form of *Churna* and *Vataka* respectively. *Chandamarutam Malahara* is a *Rasakalpa* preparation.

**PROCUREMENT AND PREPARATION OF DRUG**

Ingredients of *Haritakyadi Yoga*<sup>[5]</sup> are *Haritaki*, *Aamalaki*, *Vacha*, *Vidanga*, *Rajani*, *Pippali*, *Shunthi*, *Guda* (molasses) and *Saindhava Lavana* in equal proportion. Ingredients of *Chandrashkaladi Vataka* are, *Bakuchi*, *Chitraka*, *Rajani*, *Vidanga*, *Tuvaraka*, *Bhallataka*, *Haritaki* and *Bibhitaki*. Ingredients of *Chandamarutam Malahara* are *Hingula* (5 parts), *Rasakarpura* (2 parts), *Sauvira* (1 part), *Gandhaka* (1part), *Godugdha* (2 parts).

All drugs were identified & authenticated from pharmacognosy department of I.P.G.T. and R.A. GAU. Jamnagar and drugs were manufactured in the pharmacy of I.P.G.T. and R.A. Jamnagar.

**STUDY POPULATION**

The patients with sign & symptoms of *Eka-kushtha*<sup>[6]</sup> (Psoriasis) visiting the Out Patient Department of Kayachikitsa, Institute for Post Graduate Teaching and Research in Ayurveda, Jamnagar were selected for the present study.

**SAMPLING**

Open labelled random sampling technique.

**SAMPLE SIZE**

40 patients were selected irrespective of their socioeconomic, educational or religious status.

**DIAGNOSTIC CRITERIA**

Patients having signs and symptoms of *Eka-Kushtha* (Psoriasis) like well circumscribed erythematous papules/Plaques covered with dry, brittle, silvery greyish white scales which may be associated with Auspitz sign, Koebner phenomenon, Candle grease sign.

**INCLUSION CRITERIA**

1. Patients of either sex belonging to age group 20– 65 years.
2. Patients suffering from chronic Plaque Psoriasis, Guttate Psoriasis, Erythrodermic Psoriasis.
3. Patients fit for *Shodhana Karma*.

**EXCLUSION CRITERIA**

1. The patient suffering from pulmonary tuberculosis, cardiac disorders, major renal diseases, immune compromised patients, Postural Psoriasis.
2. Patients suffering from uncontrolled diabetes, hypertension or Endocrine disorders.
3. Patients unfit for *Shodhana*.

**ETHICAL CONSIDERATION**

Ethical clearance was obtained from institutional ethical committee of IPGT and RA.GAU. Jamnagar. Vide Reference- PGT/7-A/Ethics/2014-2015/1538. Dated: 2/09/2014.) This study was also registered in Clinical Trial Registry of India (C.T.R.I.) vide CTRI/2016/02/006613.

**DESIGN OF GROUPS AND MANAGEMENT**

40 clinically diagnosed and confirmed patients of Psoriasis were randomly divided, by simple random method into two groups i.e. 20 patients in each group.

**1. KOSHTHASHUDDHI RASAYANA (KSR) GROUP**

In this group before administration of *Chandrashkaladi Vataka* and *Chandamarutam Malahara* for local application *Koshthashuddhi* was performed in each patient. For this purpose, for initial three days *Deepana* and *Pachana* was done with 3 gms of *Trikatu Churna* once a day with lukewarm water before meal. On the 4th day, after assessing the status of patients, plain *Go-Ghrita* in the dose of 30 ml was given early in the morning at 6 am, on empty stomach with lukewarm water and *Sneha Jirna Lakshana* were assessed. The dose of *Snehapana* was increased for consecutive days after assessing the *Koshtha* and was given till the patients achieved *Samyaka Snehana* features. After *Snehapana*, *Sarvanga Abhyanga* with *Tila Taila* and *Vashpa Swedana* with *Dashmoola Kwatha* was carried out for 3 days. During the period of *Snehana* and *Swedana*, patients were kept over strict *Pathya Aahara* and *Vihara*. On the day of *Koshthashuddhi*, *Haritakyadi Yoga* was given to the patients after proper *Sarvanga Abhyanga* and *Swedana*. Condition of patient was carefully assessed and noted throughout the *Shodhana*<sup>7</sup> process till the completion of *Vegas*. Thereafter dietary regimen was prescribed to the patients including *Manda*, *Peya*, *Vilepi*, *Yusha* in a sequential pattern as per the type of *Shuddhi*. After the completion of *Samsarjana Karma*, these patients were given *Chandrashkaladi Vataka Rasayana* (each of 500 mg) thrice daily orally after breakfast, lunch and dinner with normal water for the duration of one month. Simultaneously for the local application *Chandamarutam Malahara* was given once daily. After completion of therapy, follow up was done for 1 month (15 days interval) to assess the status of patients and long standing effect of drug in both the groups. *Pathya-Apathya* was advised to all the patients during the course of therapy

**2. RASAYANA (R) GROUP**

The patients of this group were subjected to oral administration of *Chandrashkaladi Vataka* in the dose of 2 *Vataka* (Each *Vataka*.500 mg.) thrice a day, after breakfast, lunch and dinner with normal water for the duration of 1 month along with the application of *Chandamaruta Malahara*, once a day, on affected skin lesions, without *Koshthashuddhi*.

**CRITERIA OF WITHDRAWAL**

Increase in symptoms, any allergic reaction or not willing to continue the treatment.

**LABORATORY INVESTIGATIONS**

To assess the status of the patients and to rule out other conditions, following investigations were carried before initiating the course of treatment and after the completion of the treatment like complete blood counts,

Physical and Microscopic urine investigations and Biochemical investigations like Random Blood Sugar, Blood Urea, Serum Creatinine, Serum Cholesterol, Serum Bilirubin, SGPT.

### CRITERIA OF ASSESSMENT

The score which was recorded on the first day of treatment was considered as base line score and the score recorded at the last day of treatment was considered as end score. PASI score and DLQI score were assessed before and after treatment.

Considering the overall improvement shown by patients in signs & symptoms the total effect of therapy was assessed in terms of complete remission, improved, moderately improved, mildly improved, & unchanged as follows,

1. Complete remission: Complete relief (100%) in sign & symptoms
2. Markedly improved: patient showing improvement more than (75%) in sign & symptoms
3. Moderately improved: patient showing improvement upto 50 to 75% in sign & symptoms
4. Mildly improved: patient showing improvement upto 25 to 50% in sign & symptoms
5. Improvement: below 25% relief in signs & symptoms.
6. Unchanged: less than 10% relief in signs & symptoms.

### ADVERSE EFFECT OF EVALUATION CRITERIA

Evaluation & reporting of adverse effect was done as per guidelines of National Pharmacovigilance Programme for Ayurveda, Siddha, & Unani (ASU) drugs.

### STATISTICAL ANALYSIS

After preparing master chart of all the required data in Microsoft excel work sheet, statistical calculation were made with the help of sigma stat 3.5 software and in stat 3 software. The data were analysed by Wilcoxon signed-rank tests for analysing the effect of therapy on each sign and symptom as subjective parameters among the group. Paired – t test was performed for quantitative parametric paired data and unpaired t test for quantitative unpaired data. A level of p value <0.05 was considered as statistically significant and insignificant at the level of p >0.05.

### OBSERVATION AND RESULT

#### DEMOGRAPHIC DATA

Out of 40 patients registered, 17 patients in group R and 19 patients in group, KSR completed the study. 4 patients discontinued the treatment for personal reasons. Maximum number of patients, i.e. 60% were from the age group of 21-30 years, 72.50% were male, 90% patients belonged to Hindu religion, 40% of the patients were graduates, 27.5% each were business persons (including self-employee) and in service, 65% patients belonged to middle class, 95% patients were from *Jangala Desha* and 90% were from urban area. Gradual onset of the disease was reported in 100% of the patients. Plaque Psoriasis was found in 97.5% of

patients, 50% patients had chronicity ranging between 1-5 years, prominent precipitating factors reported by the patients were climate changes i.e. in 95% of the patients. Abrupt changes in the season was precipitating factor in 87.5% followed by emotional stress in 40%, 92.5% patients reported winter as the aggravating season. Only 2.5% of patients reported positive family history of Psoriasis. 65% of the patients previously were taking allopathic treatment for the management of Psoriasis. The dominance of *Rasa* in the diet of the patients of this study was *Katu* (87.5%), *Lavana* (82.5%) and *Amla* (77.5%). 10% of patients gave history of high stress level at work places. 47.5% patients were of *Pitta-Kapha Prakruti*. 46.84% patients were of *Vishamagni*. Intake of excess *Dadhi* (curd) in 97.5% patients, *Kshira* (milk) in 100% patients and *Takra* (buttermilk) was reported in 92.5% of the patients. History of excessive intake of *Vidahi Ahara* (spicy food) was found in 100% of the patients. Intake of *Lavana* and *Dugdha* together was reported in 97.5% of the patients. Intake of milk with *Amla Rasa* was found in 12.5% of the patients. Most common *Mithya Vihara* found in the patients were *Divaswapna* (day sleep) 90%, followed by *Vegadharana* (suppression of natural urges) (15%). *Krura Koshtha* was reported in 90% of the patients. *Rasa, Rakta* and *Mamsa Dhatu* and *Stroto-Dushti* was noted in 100% of the patients. 95% of the patients had lesion in exposed areas, 100% reported had asymmetrical pattern, 97.5% had well demarcated lesion, Plaque variety of lesion was found in 100% of patients, 90% reported silvery shiny color of lesions and 67.5% of the patients reported scalp as the commonest site of involvement.

### EFFECT OF THERAPY IN RASAYANA GROUP

On analysing the effect of Group R, it has provided statistically highly significant results ( $P < 0.001$ ) in *Matsyashakalopamam* (57.11%), *Rukshata* (64.98%), *Bahalatva* (62.48%) and *Kandu* (57.43%) in the patients of Psoriasis, where as highly significant results ( $< 0.01$ ) were seen in *Mandal* (48.17%) and *Aswedanam* (50%) except for *Mahavastu* (16.64%), candle grease sign and Auspitz sign where insignificant results were found. ( $p > 0.05$ ). (Table no.1) Insignificant changes were found in all laboratory parameters in both the groups and all the parameters remained within normal limits.

Group R showed better effect in reducing *Mandala* (Erythematous plaques), *Matsyashakalopama* (Scaling), *Rukshata* (Dryness), *Aswedana* (Anhydrosis), *Bahalatva* (Thickening of skin lesion). This may be because of combined action of internal administration of *Chandrashakaladi Vataka* which contains *Ushna, Tikshna* drugs like *Bhallataka, Tugaraka, Chitraka* which due to its properties arrest parakeratosis ultimately reducing the formation of silver scales and thus reducing scaling. In addition, *Rasayana* effect of these drugs may also bring down immunological reactions and reverse the pathogenesis of Psoriasis. Other ingredients of *Chandrashakaladi Vataka* like *Haridra, Triphala* and *Vidanga* due to anti-inflammatory reaction arrest the

pathogenesis. All the drugs of *Chandrashakaladi Vataka Rasayana* possess *Rasayana* property. Drugs like *Haritaki*, *Amalaki*, *Rajni*, *Bhallataka* are included in *Kushthaghna Mahakashaya* given by Acharya Charaka and have *Medhya* and *Shothahara* property and possess immunomodulatory, antioxidant and anti-inflammatory property. *Chandrashakaladi Vataka Rasayana* has dominancy of *Tikta-Katu Rasa* As described by Acharya Charaka, *Tikta Rasa* has the property of *Deepana and Pachana*<sup>[8]</sup> and thus, helps in *Amanashana* formed due to *Nidanasevana*. *Tikta Rasa* also has the property of *Raktaprasadana*, *Vishaghna*, *Kushthaghna*, *Kandughna* and *Dahaprashamana*. It also has *Kaphaghna* property. Thus through these properties *Chandrashakaladi Vataka Rasayana* acts on *Eka-Kushtha*. *Chandamarutam Malahara* which was used as local application contains drugs like *Hingula*, *Gandhaka* and *Rasakarpura* formed in the base of *Siktha* and *Tila Taila*. Local application of this, on the affected parts of skin gives corrosive effect which checks the process of hyperkeratination locally and may have slowed down the excessive epidermal proliferation. Oily base of this *Malahara*, reduces the *Tikshna* effects of its ingredients and on other hand helps for better penetration of it. This is in accordance to the treatment adopted these days as systemic (psoralens plus UV radiation) therapy which is proved to be very effective in managing Psoriasis.

#### OBSERVATIONS OF SNEHAPANA AND SHODHANA IN KSR GROUP

On the first day total time taken for digestion of *Snehadravya* i.e *Ghritha* was an average of 9.2 hours while it took average 10.5 hours for digestion on 6th and 10.25 hrs on 7th day. In 40% of patients *Sneha Jirna Lakshana* were noted on 3rd day of *Ghrithana* followed by 35% and 25% on 2nd and 1st day respectively. In majority of patients (40%), *Samyaka Snigdha Lakshanas* appeared on 5th day and 6th day of *Snehapana*, followed by in (20%) of patients on 4th day of *Snehapana*. In majority of the patients, average time taken for the first *vega* of *Shodhana* to appear was 3 hours (45%) followed by average 4 hours(25%), average 2 hours (15%) of the patients in group KSR. Average time taken for complete *Shodhana* was 8 hours in 40% of the patients, 7 hours in 20% of the patients, 6 and 5 hours each in 15% of the patients. A maximum average of 3 *Vegas* of *Vamana* followed by 8 *Vegas* of *Virechana* were noted in patients who underwent *Shodhana* in this group. *Maddhyam Shuddhi* was found in 13 patients out of 20 (65%), whereas *Avara Shuddhi* was found in 7 patients (35%). *Samsarjan Krama* for 5 days was given for patients of *Maddhyam Shuddhi* and 3 days for patients of *Avara Shuddhi*.

#### EFFECT OF SNEHAPANA ON GROUP KSR (KOSHTHASHUDDHI RASAYANA) ON SIGNS AND SYMPTOMS OF EKA-KUSHTHA.(PSORIASIS)

After intake of *Snehapana*, in Group KSR, *Mandala* (Erythematous plaques) was reduced by (7.97%),

*Matsyashakalopama* (Scaling) by (6.23%) *Rukshata* (Dryness) by (14.29%), *Aswedana* (Anhydrosis) by (4.43%) and *Kandu* (Itching) by (13.34%), which was statistically significant. (Table.No.2).

#### EFFECT OF KOSHTHASHUDDHI ON SIGNS AND SYMPTOMS OF EKA-KUSHTHA (PSORIASIS)

In Group KSR, after *Koshthashodhana*, 24.01% relief was noted in symptoms like *Mandala* (Erythematous plaques), 31.23% in *Matsyashakalopama* (Scaling), 37.29% in *Rukshata* (Dryness), 35.55% in *Aswedana* (Anhydrosis), 19.98% in *Bahalatva* (Thickening of skin lesion), 51.14% in *Kandu* (Itching), 38.09% in *Mahavastu* (Extent of lesion). The results found in *Matsyashakalopama*, *Rukshata*, *Aswedanam*, *Kandu* were statistically highly significant. Similarly significant changes were found on Dermatology Life Quality (DLQI). (Table.no. 4) This could be probably due to the systemic effect of *Koshthashodhana* which may have reduced the signs and symptoms of *Eka-Kushtha*.

*Deepana* and *Pachana* were done as *Purvakarma* of *Koshthashuddhi*, This increases the *Agni* and digests the *Ama*. It also increases the secretions in the digestive system, stimulates the metabolic activity and helps to digest and excrete the metabolic waste accumulated in the tissues. *Go-ghritha* is mainly *Vata-Pitta Shamaka* and decreases the dryness, Scaling and burning sensation. *Snehapana* brings about *Mardavta* in the body, adhered *Doshas* are released from *Dhatu*s and then they migrates towards *Kushtha* which is considered as the essential phenomenon required for *Shodhana* process.

All the ingredients of *Haritakyadi Yoga* have, *Sukshma*, *Ushna*, *Tikshna*, *Guna* predominancy, thus enters in *Sthula* and *Anu Strotasa* by virtue of *Sukshma Guna* and *Dosha Vilayana* occurs by virtue of *Agneya Guna* This leads to *Sharira* and *Lalata Pradeshi Swedotpatti* (*Tikshna Guna*), *Dosha Chedana* and *Bhedana* (*Ushna Guna*), *Roma Harsha* (*Anupravan Bhava*-detachment of *Doshas*). *Dosha Gati* gets directed towards *Kushtha* and *Dosha* migrates towards *Aamashaya* leading to *Hrillas* and *Udara Adhamana*. Ultimately, upward movement of *Dosha* occur which leads to *Vamana Vega Pravritti*. *Haritaki* is *Anulomani* (purgative). *Ushna Guna* predominancy of the contents like *Vacha*, *Vidanga*, *Pippali*, *Saindhava Lavana* brings about *Aamashaya Prakshobha*. *Mala* gets detached from *Dhatu*s. (*Chedana/Bhedana*). And hence *Anupravana Bhavaat* (*Microfined*) and *Jala* and *Prithvi Mahabhuta Pradhanyat*, *Virechana Vega* occurs.

*Rasayana* is a specialized type of treatment influencing the fundamental aspect of body viz. *Dhatu*, *Agni*, *Srotansi* and *Ojus* etc. Hence it can be said that *Rasayana* is applied to promotion and preservation of health. However prevention and treatment of the diseases are other aspects of *Rasayana*. Thus *Rasayana* helps to improve metabolic processes which results in best possible biotransformation and produce the best quality



bodily tissue and delay senility and prevent other diseases of old age. *Rasayana* builds natural resistance against infection. *Rasayana* drugs invigorate the body in general by sustaining the required balance between anabolism and catabolism. The maximum benefits of *Rasayana* can be had after proper *Shodhana* in any type of *Kushtha*.

#### OVERALL EFFECT OF THERAPY

##### EFFECT OF THERAPY ON GROUP R

Complete remission was found in 5 (29.41%) patients. Marked improvement was found in 2 (11.76%) patients. Mild Improvement was found in 7 (41.17%) patients and improvement was found in 3 (17.64%) patients. (Graph.1).

##### EFFECT OF THERAPY ON GROUP KSR

Complete remission was found in 7 (36.84%) patients. Moderate improvement was found in 1 (5.26%) patient. Mild Improvement was found in 8 (42.10%) patients and improvement was found in 3 (15.78%) patients. (Graph.1) Overall, the better results were observed in Group KSR (*Koshthashuddhi Rasayana*) in reducing signs and symptoms of *Eka-Kushtha* (Psoriasis), in comparison to Group R (*Rasayana*).

**Table no:1: Effect of Therapy in Group R on Chief complaints of 17 patients of Psoriasis (*Eka-Kushtha*)**

Chief complaints	n=17	Mean		Mean difference	Relief %	S.D.±	S.E.±	t	P	S
		B.T	A.T.							
Mandala	17	1.58	0.82	0.76	48.17	0.752	0.18	4.19	0.002 (<0.01)	HS
Matsya Shakalopamam	17	2.05	0.88	1.17	57.11	1.074	0.26	4.51	<0.001	VHS
Rukshata	17	2.35	0.82	1.52	64.98	1.179	0.28	5.34	<0.001	VHS
Aswedanam	17	2.11	1.05	1.05	50	1.088	0.26	4.01	0.002 (<0.01)	HS
Bahalatva	17	1.88	0.70	1.17	62.48	0.809	0.19	5.99	<0.001	VHS
Kandu	17	2.76	1.17	1.58	57.43	0.870	0.21	7.52	<0.001	VHS
Mahavastu	17	1.41	1.17	0.23	16.64	0.437	0.10	2.21	0.125 (> 0.05)	IS
Candle grease sign	17	0.35	0.00	0.35	100	0.786	0.19	1.85	0.250 (> 0.05)	IS
Auspitz sign	17	0.23	0.00	0.23	100	0.664	0.16	1.46	0.500 (> 0.05)	IS
DLQI	17	13.16	5.52	7.64	58.03	5.231	1.26	6.02	<0.001	VHS
PASI	17	5.32	2.64	2.68	50.32	2.308	0.56	4.79	<0.001	VHS

**Table 2: Effect of Therapy in Group KSR on chief complaints after *Snehapana* in 19 patients of Psoriasis (*Eka-Kushtha*):**

Chief complaints	n=19	Mean		Mean difference	Relief%	S.D.±	S.E.±	T	P	S
		B.T	A.S							
Mandal	19	1.31	1.21	0.10	7.97	0.31	0.07	1.45	P = 0.500 (> 0.05)	IS
Matsya shakalopamam	19	1.68	1.57	0.10	6.23	0.31	0.07	1.45	P = 0.500 (> 0.05)	IS
Rukshata	19	2.21	1.89	0.31	14.29	0.58	0.13	2.36	P = 0.063 (> 0.05)	IS
Aswedanam	19	2.36	2.26	0.10	4.43	0.31	0.07	1.45	P = 0.500 (> 0.05)	IS
Bahalatva	19	1.31	1.47	-0.15	-12.00	0.50	0.11	-1.37	P = 0.500 (> 0.05)	IS
Kandu	19	2.36	2.05	0.31	13.34	0.58	0.13	2.36	P = 0.063 (> 0.05)	IS
Mahavastu	19	1.10	1.10	0.00	00.00	0.00	0.00	0.00	P = 1.000 (> 0.05)	IS

**Table. 3: Effect of Therapy after Koshthashuddhi on cardinal symptoms of Psoriasis on 19 patients of Psoriasis (Eka-Kushtha) in Group KSR**

Chief complaints	n=19	Mean		Mean difference	Relief%	S.D.±	S.E.±	T	P	S
		B.T	A.S							
Mandala	19	1.31	1.00	0.31	24.01	0.58	0.13	2.36	1.000 (> 0.05)	IS
Matsya shakalopamam.	19	1.68	1.15	0.52	31.23	0.51	0.11	4.47	0.002 (<0.01)	HS
Rukshata	19	2.21	1.57	0.63	28.58	0.59	0.13	4.60	<0.001	VHS
Aswedanam	19	2.36	1.52	0.84	35.55	0.60	0.13	6.09	<0.001	VHS
Bahalatva	19	1.31	1.05	0.26	19.98	0.45	0.10	2.53	0.063 (> 0.05)	IS
Kandu	19	2.36	1.15	1.21	51.14	0.91	0.21	5.75	<0.001	VHS
Mahavastu	19	1.105	0.68	0.42	38.09	0.60	0.13	3.02	0.016 (< 0.05)	S

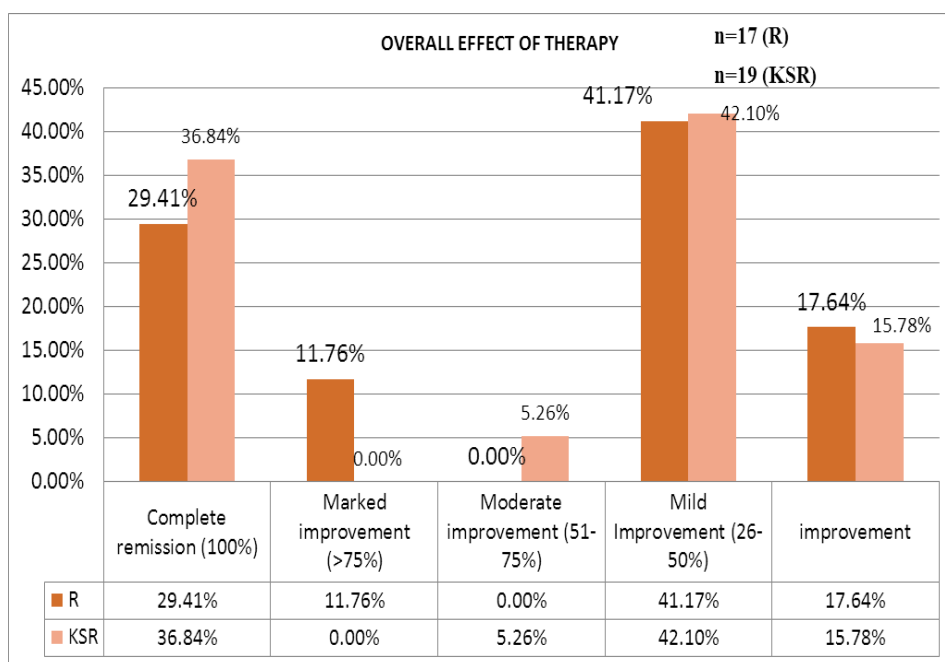
**Table no:4: Total effect of Therapy in Group KSR on chief complaints of 19 patients of Psoriasis (Eka-Kushtha)**

Chief complaints	n=19	Mean		Mean difference	Relief%	S.D.±	S.E.±	t	P	S
		B.T	A.T.							
Mandala	19	1.31	0.57	0.73	56.00	0.65	0.15	4.91	<0.001	VHS
Matsya shakalopamam	19	1.68	0.73	0.94	56.23	0.70	0.16	5.85	<0.001	VHS
Rukshata	19	2.21	0.89	1.31	59.52	0.88	0.20	6.47	<0.001	VHS
Aswedanam	19	2.36	0.89	1.47	62.24	0.96	0.22	6.66	<0.001	VHS
Bahalatva	19	1.31	0.57	0.73	56.00	0.73	0.16	4.37	<0.001	VHS
Kandu	19	2.36	0.94	1.42	60.13	0.76	0.17	8.06	<0.001	VHS
Mahavastu	19	1.10	0.68	0.42	38.09	0.60	0.13	3.02	0.016 (< 0.05)	S
Candle grease sign	19	1.05	0.36	0.68	64.95	0.74	0.17	3.98	0.002 (<0.01)	HS
Auspitz sign	19	1.15	0.57	0.57	50	0.50	0.11	4.97	<0.001	VHS
DLQI	19	14.26	5.26	9.00	63.10	3.14	0.72	12.47	<0.001	VHS
PASI	19	4.86	1.13	3.73	76.74	2.43	0.55	6.69	<0.001	VHS

n= number of patients. S.D.=standard deviation ,S.E.= standard error.

A.T. = after treatment, B.T. –before treatment

S= significance, VHS = very highly significant, IS= insignificant, HS-highly significant.

**Graph:1 OVERALL EFFECT OF THERAPY AFTER TREATMENT**

**CONCLUSION**

As *Eka-Kushtha* is *Tridoshaja Vyadhi* with *Rasa, Rakta, Mamsa* and *Swedavaha Srotasa Dushti* along with *Manovaha Srotas*, both internal and external medicine is necessary for its management along with *Samshodhana*. The finding of the study indicates that the effect of *Koshthashuddhi* along with internal administration of *Chandrashakaladi Vataka* and external application of *Chandamarutam Malhara* is comparatively better therapy than only internal administration of *Chandrashakaladi Vataka* and external application of *Chandamarutam Malhara*. Here, even much better results could be obtained if the therapy would have been given for a longer duration.

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