

A STUDY EVALUATING THE EFFICACY OF KHADIRA RASAYANA IN SUBJECTS WITH VICARCIKA / ATOPIC DERMATITIS

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ABSTRACT

Objectives: To evaluate therapeutic effect of *Khadira rasayana* and to measure Health related Quality of life following *Khadira rasayana* treatment in patients suffering from *Vicarcika* / Atopic dermatitis. **Study Design:** Single group assignment with pre test and post test design. **Study Selection:** 27 patients suffering from *Vicarcika*/ Atopic Dermatitis were selected for the study from SDM Ayurveda Hospital, Udupi. **Intervention:** *Koshtha Shodhana* on day 1 with oral administration of *Erandataila* in empty stomach, in a dose of 20 ml in the morning, from day 2 to day 31 oral administration of 5 capsules of *Khadira rasayana* at early morning in empty stomach, about half an hour before breakfast. **Results:** *Khadira rasayana* showed moderate improvement in the patients suffering from *Vicarcika* and best improvement is seen in 4 patients. There was statistically significant improvement in Dermatological Life Quality Index, *Severity, Kandu, Pidaka* and *Srava*. **Interpretation and Conclusion:** *Khadira rasayana* have properties like *Kustagna, Kandugna, Vayasthapana, Shothahara* and *Rasayana*, by virtue of these properties of *Khadira rasayana* the symptoms of *Vicarcika* got relieved. The improvement was statistically significant without any adverse reactions. So the *Khadira rasayana* can be used in *Vicarcika*.

Keywords: *Vicarcika, Khadira rasayana*, Atopic dermatitis.

INTRODUCTION

Among the primates, only humans have a mostly naked skin, which is the outermost tissue comes with different shades. As a result, people are very aware of, and very sensitive to, the appearance of their skin. Skin diseases in general have a chronic course,

tendency of exacerbations and recurrence. *Vicarcika* is no exception for this decree. It is a chronic illness characterized by skin eruptions, itching with oozing and is one among the *Kshudra Kushta*. *Vicarcika*¹ simulates the symptom manifestation of Atopic

Dermatitis². The term Atopic Dermatitis refers to distinctive reaction pattern in the skin characterized by itching as a predominant feature. All *Kushta* are *tridoshaja*, hence *Vicarcika* can be explained in similar manner i.e. *Kapha* is responsible for *Kandu*, *Pitta* for *Srava* and *Shyavata* indicates the presence of *Vata*. Despite *Vicarcika* being *tridoshaja*, various *acharyas* have mentioned different dominances of *dosha* i.e. *Kapha*¹, *Pitta*³, *Vata-Pitta*⁴, which also suggest specific symptom complexes. As per the symptoms and pathogenesis, *Vicarcika* has been correlated with Atopic Dermatitis in allied science, i.e. *Kandu* (excessive itching), *Pidaka* (papules, vesicles, and pustules), *Shyava* (erythema with discoloration), *Bahusrava* (profuse discharge, oozing), *Raji* (thickening, lichenification of skin), *Ruja* (pain) and *Ruksha* (dry lesion)¹.

Vicarcika / Atopic Dermatitis affect a sizeable percentage of people. Chronic course of exacerbation as well as remission added with perpetuation and progression demands more effective management and meticulous planning of most effective treatment. As chronic lingering diseases are best treated by *rasayana* method, this study is planned to establish the beneficial effect of *Khadira rasayana*⁵ in patients suffering from *Vicarcika* / Atopic dermatitis.

OBJECTIVES:

- To evaluate the therapeutic effect of *Khadira rasayana* in the management of *Vicarcika* / Atopic dermatitis.
- To measure the Health Related Quality of Life following *Khadira rasayana* treatment in patients suffering from *Vicarcika* / Atopic dermatitis.

METHODS AND MATERIAL:

The study was initiated after obtaining the institute human ethic committees permission (Ref. No. SDMCAU/ACA-49/ECH26/15-16 Date: 23/03/2016)

Source of medicine:

Cap. *Khadira rasayana* (B.No.170676 Mfg AUG/2017) was obtained from S.D.M Ayurvedic Pharmacy, Udupi.

Source of data:

27 patients fulfilling diagnostic criteria of *Vicarcika* were taken for study from OPD and IPD of Shri Dharmasthala Manjunatheshwara Ayurveda Hospital, Kuthpady, Udupi. The selection of patient was irrespective of their gender and cast.

Method of collection of data:

A special proforma was prepared with all points of history taking, physical signs and symptoms as mentioned in Ayurveda as well as Allopathic science. Assessment of the signs and symptoms was corroborated by Criteria of Hannifin and *Rajka* for the Diagnosis of Atopic Dermatitis and laboratory investigations if any.

Design of the study:

Study Type: Interventional

Allocation: Non-Randomized

Endpoint Classification: Efficacy Study

Intervention Model: Single Group Assignment

Primary Purpose: Treatment

Masking: Open Label

Intervention:

***Koshtha Shodhana* on day 1:** Oral administration of *Eranda taila* in empty stomach, in a dose of 20 ml in the morning.

***Khadira rasayana* on day 2 to day 31:** Oral administration of 5 (2.5 gms/day) capsules of *Khadira rasayana* at early morning in empty stomach, about half an hour before breakfast (5-0-0 b/f).

Follow up duration-30 days

Total duration of study - 31 days of intervention followed by 30 days of follow up period.

Diagnostics Criteria:

- Presence of signs and symptoms of *Vicarcika* that include *Kandu*, *Pidaka*, *Bahusrava*, *Ruja*, *Vaivarnya*, *Daha* and *Rukshata*.
- Criteria of Hanifin and *Rajka* for the Diagnosis of Atopic Dermatitis.

Inclusion criteria:

1. Mild, moderate or severe Atopic dermatitis (stage of the illness in a given subject is determined by Grading Score of *Rajka* and Langeland for Severity of Atopic Dermatitis).

2. Men or women.
3. 16 years of age or older.
4. Written informed consent by the subject or legal guardian.
5. Percentage of overall body surface area of involvement (BSA) must be $\geq 2\%$ ($>5\%$).
6. Women of child bearing potential will be allowed to participate in the study, and these subjects will be required to use at least one form of birth control.

Exclusion criteria:

1. Subjects with any active skin disease other than Atopic dermatitis.
2. Subjects who have had systemic or topical treatment for Atopic dermatitis within 14 days prior to first application *Khadira rasayana*.
3. Women who are pregnant, attempting to conceive, or nursing an infant.
4. Patients suffering from manifestation like Infective skin lesions.
5. Patients with evidence of malignancy.
6. Patients suffering from other major systemic illness necessitating long term drug treatment.

OUTCOME MEASURE

Primary Outcome Measure

1. Change in Severity of Atopic Dermatitis (AD) as Measured by a Change in Grading Score of *Rajka* and Langeland for Severity of Atopic Dermatitis [Time Frame: Baseline and day 31].
2. Change in Dermatology Life Quality Index (DLQI) [Time Frame: Baseline and day 31].

Secondary Outcome Measures

1. Change in Itch Intensity (*Kandu*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].
2. Change in Pain Intensity (*Ruja*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].
3. Change in Discharge Intensity (*Srava*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].

4. Change in Eruption Intensity (*Pidaka*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].
5. Change in Pigmentation Intensity (*Vaivarnya*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].
6. Change in Burning sensation Intensity (*Daha*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].
7. Change in Dryness Intensity (*Rukshata*) as Measured by a Change in Visual Analog Scale (VAS) Score [Time Frame: Baseline and day 31].
8. Percentage change in total symptom score [Time Frame: Baseline and day 31].

(The overall improvement of medication in a given subjects is calculated by the percentage reduction in the total score of *Kandu*, *Ruja*, *Srava*, *Pidaka*, *Vaivarnya*, *Daha* and *Rukshata*. Further, if the improvement is 100% then it is considered as Complete Remission, 75 – 99% then it is Marked Improvement, 74%- 50% considered as best improvement, 49% - 25% then it is moderate improvement, 24 - 0% is considered as unchanged and worsening of the symptoms].

OBSERVATIONS

Among the 27 patients, maximum number of patients i.e.13(48%) belonged to age group 36 – 55, whereas minimum number of patients observed is 1(3.7%) belonged to the age group 76 and more in which 63% are male and 37% were female. 74% belonged to Hindu religion, 11% of patients belonged to Muslim and other religions. 37% were graduates, 15% were illiterates, 22% patients had completed junior college and higher secondary. 55% patients were married and 22% were unmarried. 30% patients were doing business among them 20% patients are exposed to harmful chemicals due to pesticide business as the patients are continuously exposed to the chemicals like Acephate, N-methyl

carbamate, Chlorpyrifos, Endosulfan. These chemicals causes skin irritations and it triggers the symptoms in patient. 15% patients are painters, as they regularly exposed to the chemical compounds like pigments, Extenders, binders, solvents, additives. The main organic solvents used in paints are toluene, xylene, aliphatic compounds etc. Among 27 patients, 52% patients belong to middle class, 5% belongs to upper middle class, 15% belongs to lower class 55.5% patient doesn't had any 11% were alcoholic, 18.5% were smokers, 14.8% were addicted to Tobacco chewing. Present study showed that 66.6% are of mixed diet rest is of Vegetarian diet. 40.7% patients belong to *Kapha Pitta prakruti*, 37% were *Vata Pitta*, and 14.8% were *Vata Kapha*. Analysis of *Sara* revealed that 62.9% patients belonged to *madhyama sara*, 37.03% belongs to *avara sara*. 66.6% are of *madhyama samhanana*, were 25.9% are of *pravara samhanana* and only 7.45 were of *avara samhanana*. 62.96% belongs to *madhyama pramana*, 7 were of *pravara pramana* and 3 are of *avara pramana* analysis of *satwa* revealed that 37% patients are of *madhyama satwa*, 33.33% are of *pravara satwa* and 29.6% are of *avara satwa*. 66.6% patients are of *madhyama satmya*, 22.22% were of *avara stamy*a and 11.1% are of *pravara satmya*. majority of patients (66.66%) are of *madhyama ahara shakti*, 18.5% had *avara shakti*, were as 14.8% are of *pravara ahara shakti*. majority of patients (51.8%) had *madhyama vyayama shakti*, were 25.9% patients are of *avara* and 22.2% are of *pravara vyayama shakti*. 44.44% of patients falls in *Aharja nidana* category, were as 25.9% in *viharaja*, 11% in *manasika nidana*, 14.8% in *Ahara-viharaja nidana*. Analysis of symptoms i.e. *Kandu*, *Srava*, *Pidaka*, *Vaivarnya* were observed in all the patients (100%), *Ruja* was seen in 22.2%, 18.5% had *Daha*, *Rukshata* was seen in 51.8%, So first four symptoms ie *Kandu*, *Srava*, *Pidaka* and *Vaivarnya* are considered as cardinal symptoms. On analysis of Severity of the symptoms among 27 patients 33.33% had Very large effect, 25.9% had extremely large effect, 22.2% had moderate effect, 11.1% small effect and

7.4% had no effect. *Vicarcika* had a strong impact on Quality of Life in the form of stress and depression as patient use to feel embarrassment in society. Higher the value of index more is the impact on quality of Life as observed in this study. In this study no patients had mild variety, whereas 62.9% had moderate and 37.03% had severe variety of Atopic dermatitis.

RESULTS: (Table no.1)

Statistical analysis before and after the treatment was done using Sigma stat statistics software version 3.5 with the Mean(\pm SE), Standards deviation and results were analyzed statistically using Wilcoxin signed rank test.

1) Effect of treatment on Severity:

Severity of the disease was assessed by change in Severity of Atopic Dermatitis (AD) as Measured by a Change in Grading Score of *Rajka* and *Langeland* for Severity of Atopic Dermatitis. At baseline the mean score of Severity was 7.037(0.189) that came down to 4.481(0.163) following *Khadira rasayana* thus recording an improvement by 2.556. On analysis with statistical test the improvement was highly significant with test of significance $P < 0.001$.

2) Effect of treatment on Dermatological quality life index:

Quality status of Life of the patients suffering from *Vicarcika* was assessed by adapting the questionnaire of Dermatological Quality of Life Index. If scoring obtained is higher it indicates poor quality of life and vice versa. At baseline the mean score of Quality status of life was 15.11(1.665) that came down to 10.63 (1.348) following *Khadira rasayana* thus recording an improvement by 4.48. On analysis with statistical test the improvement was highly significant with test of significance $P < 0.001$.

3) **Effect of treatment on *Kandu*:** Effect of *Khadira rasayana* on *Kandu* was assessed using Visual analogue scale. At base line the mean score was 6.889 (0.126) and after intervention reduced to 2.222(0.299). There was significant improvement on

statistical analysis i.e. test of significance is $P < 0.001$.

4) Effect of treatment on *Ruja*: On assessment of *Ruja* in 6 patients of *Vicarcika* using Visual analogue scale, the changes in the mean score of *Ruja* at base line was 6(0.632) and after intervention reduced to 2.33 (0.615). The change that occurred with the treatment is greater than would be expected by chance; there is a statistically significant difference ($P = 0.031$).

5) Effect of treatment on *Srava*: The effect of *Khadira rasayana* on *Srava* before and after the treatment in 27 patients is given in table. Statistical analysis revealed that the mean score of *Srava* which was 5.22(0.308) before treatment was reduced to 3.037(0.269) after treatment and this change that occurred with the treatment is statistically significant ($P < 0.001$).

6) Effect of treatment on *Pidaka*: The effect of *Khadira rasayana* on *Pidaka* was assessed by Visual analogue scale before and after the treatment in 27 patients is given in table. Statistical analysis revealed that the mean score of *Pidaka* which was 5.4(0.289) before treatment was reduced to 3.85(0.254) after treatment and this change that occurred with the treatment is statistically significant ($P < 0.001$).

7) Effect of treatment on *Vaivarnya*: Statistical analysis revealed that the mean score of *Vaivarnya* which was 5.815(0.177) before treatment was reduced to 4.815(0.307) after treatment, and this change that occurred with the treatment is statistically not significant ($P = 0.005$).

8) Effect of treatment on *Daha*: The effect of *Khadira rasayana* on *Daha* before and after the treatment in 6 patients using Visual analogue scale is

given in table. Statistical analysis revealed that the mean score of *Daha* which was 4.50(1.11) before treatment was reduced to 1.833(0.60) after treatment, and this change that occurred with the treatment is statistically not significant ($P = 0.063$).

9) Effect of treatment on *Rukshata*: The effect of *Khadira rasayana* on *Rukshata* before and after the treatment in 14 patients is given in table. Statistical analysis revealed that the mean score of *Rukshata* which was 5.500 before treatment was decreased to 3.714 after treatment, and this change that occurred with the treatment is statistically not significant ($P = 0.016$).

TOTAL EFFECT OF THERAPY (Table no. 2)

After the full course of *Khadira rasayana* patients were analyzed for their symptoms. The obtained results are described below.

- **Complete remission and marked improvement:** this was not seen in any of the patients; it might be because of the limited duration of the study.
- **Best improvement:** this was observed in only 14.8% of patients. The patients whose severity was mild got best improvement.
- **Moderate improvement:** among 27 patients, 81.4% falls in this category. This result proves that there was a reduction in symptoms of *Vicarcika*.
- **Unchanged:** 3.7% patient had no any changes in their symptoms, because of severe variety of *Vicarcika*, which needed long duration of medication and *Shodhana* along with that.
- **Worsening:** this was not seen in any of the patients.

Table 1: Effect of *Khadira Rasayana* on the symptoms of *Vicarcika*

Outcome (Score range)	Data	Mean	±SD	±SE	Median	Min	Max	Mean BT-AT	P value
Severity (3-9)	BT	7.037	0.98	0.189	7	5	9	2.556	<0.001
	AT	4.481	0.84	0.163	4	3	7		
DLQI (0-30)	BT	15.11	8.65	1.665	15	0	30	4.48	<0.001
	AT	10.63	7	1.348	10	0	22		

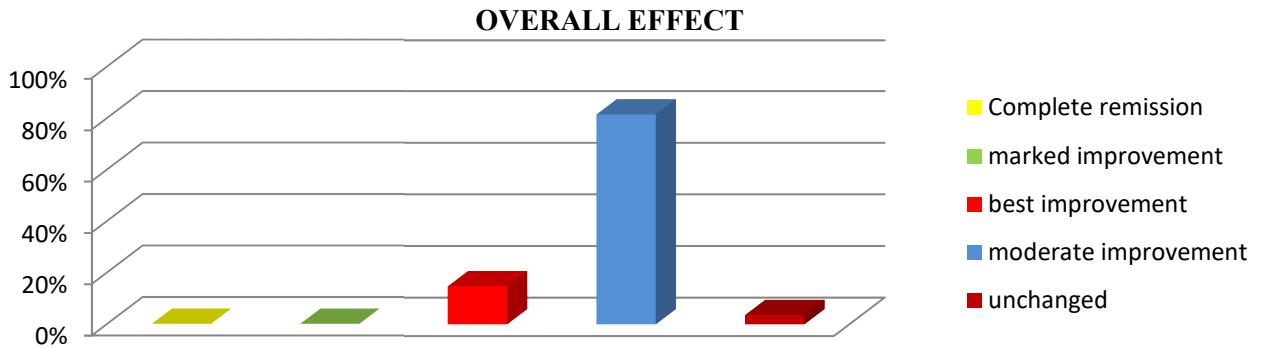
Kandu (0-10)	BT	6.889	1.12	0.216	7	5	10	4.667	<0.001
	AT	2.222	1.55	0.299	2	0	6		
Ruja (0-10)	BT	6	1.54	0.632	6	0	8	3.67	=0.031
	AT	2.33	1.50	0.615	2	0	5		
Srava (0-10)	BT	5.22	1.6	0.308	5	2	9	2.183	<0.001
	AT	3.037	1.4	0.269	3	1	6		
Pidaka (0-10)	BT	5.4	1.5	0.289	5	0	8	1.55	<0.001
	AT	3.85	1.3	0.254	4	2	8		
Vaivarnya (0-10)	BT	5.815	0.92	0.177	6	4	7	1	=0.005
	AT	4.815	1.59	0.307	5	2	8		
Daha (0-10)	BT	4.50	2.73	1.11	5	0	8	2.667	= 0.063
	AT	1.833	1.47	0.60	1.5	0	4		
Rukshata (0-10)	BT	5.500	1.22	0.327	6	3	7	1.786	=0.016
	AT	3.714	1.20	0.322	3	2	6		

***Wilcoxin signed rank test**

Table 2: Overall effect of the treatment

OVERALL EFFECT	No. of PATIENTS	%
Complete Remission (0%)	0	0%
Marked Improvement (99%-75%)	0	0%
Best Improvement (74%- 50%)	4	14.81%
Moderate Improvement (49% - 25%)	22	81.4%
Unchanged (24%-0%)	1	3.7
Worsening	0	0

Figure 1: overall effect of treatment



DISCUSSION

Rasayana in Vicarcika

Vicarcika manifests due to vitiation of *Tridosha* along with *Tvacha, Rakta & Ambu*⁵. The understanding regarding causation of Atopic dermatitis is due to antigen antibody reaction and factors mainly involved are sensitized skin or sensitizers. The body

immune mechanism fails to rectify this pathology due to less immune power. This can be resolved by '*Rasayana Chikitsa*', as it revitalizes each & every organ at its cellular level.

We are unaware of the harmful effects of pollution, processed food & over medication on our body. *Ayurveda* doctrines opine that, the incorporation of

Dosha & Dushya leads to formation of disease only when the *Vyadhikshamatva* is reduced. *Rasayana* maintains the deterioration and upgrades the *Vyadhikshamatva*, thereby preventing the disease formation. Drugs having the properties like *Kusthaghna*, *Kandughna*, *Krimighna*, *Daha prashamana* & *Vishaghna guna* can be considered as *Tvachya Rasayana*.

Rasayana is classified as⁶

1. *Kuti praveshika* and *Vatatapika*
2. *Kamya*, *Naimittika*, *Ajasryuka*.
3. *Samshodana* and *Samshamana*

The one which is given in *Vyadhi avasta* is known as *Vyadhihara rasayana* or *Naimittika rasayana*. *Acharya dalhana* classifies *rasayana* as *Samshodana rasayana* and *Samshamana rasayana*. *Samshodana* is achieved with the drugs like – *Sasyadi rasayana* and *Samshamana* by *Nagabaladi Rasayana*⁷. *Nagabaladi* comprises ten drugs, those are – *Bala*, *Atibala*, *Chandana*, *Agaru*, *Dhava*, *Tinisha*, *Khadira*, *Shimshipa*, *Asana* and *Punarnava*⁸. Among this *Khadira* is *Agrya* in *Kusta*⁹. In *Laghu nigantu* the drug *Khadira* is advised in *Vicarcika*¹⁰. As *Vicarcika* run chronic course of exacerbation *Khadira rasayana* is advocated for benefit of the patient by effect on particular *Srotas* and *Dhatu*. If *Dhatu* i.e. *Dushya* are healthy enough to resist the provocation of *Dosha*, then disease may not come into existence & can be prevented. *Rasayana* deals with this aspect of building of best *Dhatu* & ultimately providing *Vyadhikshamatva*.

So drug *Khadira* in the form of *rasayana* taken for the present study. *Khadira rasayana* is one of the *yoga* mentioned by *acharya Sushruta* in *Mahakushtachikitsaadhya*. It basically contains *Khadira* and *Amalaki*, and *gritam* and *madhu* as *anupana*¹¹. *Shodhana* is mentioned as a modality, which is considered as a *purvakama* for *Rasayana Chikitsa*. In this study *sadhya shodhana* has been carried out instead of *kramataha shodhana* because to access the efficacy of *Khadira rasayana* alone in this study.

As actual procedure was difficult to adopt so a newer method for preparation was thought to bring out. For this *Khadira kwatha* was taken and made into *ghana* (aqueous extract) form and mixed with equal amount of *Amalaki ghana*. For preparation raw drugs was obtained from stock of SDM pharmacy.

This clinical work is established to see the clinical efficacy of the *Khadira rasayana* in *Vicarcika*. The attempt of discussion lay out here is a trial to analyze the observations and results post therapeutically for a designed study of *Vicarcika*.

Effect of therapy on individual signs and symptoms:

➤ **Kandu:** The overall reduction in symptom of *Kandu* as assessed by VAS score is 67.74%. It was proved that the natural source of polyphone such as Flavanoids, Coumarins and Tannin present in the *Khadira* interfere with the process of prostaglandins production¹² thus reduces the *Kandu*.

➤ **Ruja:** Morbid *Vatadosha* is responsible for *Ruja* in *Vicarcika*. 22.22% patient had *Ruja*, the reduction by 61.11% in *Ruja* was observed in this study. This shows significant action of *Khadira* on *Ruja* due to Flavocoxid (Limbrel)¹³ present in the *Khadira* reduces the pain.

➤ **Srava:** *Ushna* and *Tishna* guna of *Pitta* is responsible for *Srava*. Hence treatment aimed at clearing the morbidity of *Pitta dosha* to rectify the symptom. The reduction by 38% in 27 patients treated with *Khadira rasayana* confirms the therapeutic benefit by normalizing the *Kapha*. Ascorbic acid and tannins of low molecular weight, namely emblicanin A and emblicanin B increases the wound contraction and cellular proliferation¹⁴ there by helps in reduction in *Srava* and wound healing.

➤ **Pidaka:** 27% relief was found in 27 patients of *Vicarcika* which is said to be good relief in *Pidaka*. *Pidaka* is a result of morbid *Kapha dosha* afflicting the *Mamsa dhatu*. Many animal experiments showed Anti inflammatory action of both *Khadira* and *Amalaki*. These drugs reduce granulo-ma formation and fight against phlogistic agents and

the acacia causes protein denaturation and thereby reducing the inflammation.

➤ **Vaivarnya:** Skin color in *Vicarcika* may be *Shyava*, *Rakta*, *Shweta* as per the dominancy of *Vata*, *Pitta*, and *Kapha* respectively. *Vaivarnya* is rectified by 17% in 27 patients treated with *Khadira rasayana*. As *Khadira* is *Kustagna*, this clearly indicates the noticeable therapeutic improvement in regards to *Vaivarnya* in patients of *Vicarcika*. As the Acacia group of drugs possesses CYP3A4 which reduces oxidative stress at cellular i.e. it acts as anti-oxidant and reduces the discoloration.

➤ **Daha:** *Daha* is a peculiar feature of morbid *Pitta dosha* involving *Rakta dhatu*. In present study 59.2% relief was found in 5 patients, which proved the efficacy of *Khadira rasayana* in symptomatic relief of *Daha*. But as the sample size is too less to draw a conclusion of effect of *Khadira rasayana* in *Vicarcika*.

➤ **Rukshata:** dryness in different extent is due to loss of moisture in skin. Morbid *Vatadosha* invariably involving the *Rasa dhatu* in *twak* is responsible for this symptom manifestation. In 14 patients 32.4% of relief was encountered. Hence this improvement proves the effect of *Khadira rasayana* on *Rukshata*.

Khadira rasayana had effective role on individual *samprapti Ghataka* in remission of symptoms of *Vicarcika*. Involved *Vata dosha* in *Vicarcika* causes *Vaivarnya* of *twacha*. In this study there was 17% improvement in *Vaivarnya*, this shows that *Khadira rasayana* have impact over *Vicarcika* in reducing *Vaivarnya* by combating *Vata dosha*. *Pitta dosha* causing *Daha* in *Vicarcika* got relieved by 59% by *Khadira rasayana* intervention as the sample size was too small to draw a conclusion about action of *Khadira rasayana* on *Daha* based on reduction in symptoms present in the patient it can be inferred that it has resentment on *Pitta dosha*. *Kandu* is caused by *Kapha dosha*, the percentage improvement obtained in case of *Kandu* is 67%, by this it is inferred that the *ruksha guna* of *Khadira* conflict the *Kandu* by reducing *Kapha dosha*. *Rasa dhatu* in-

involved in disease formation causes *Rukshata* which was reduced by the *Vayasthapana karma* of *Amalaki* by 32.4%. *Rakta* in combination with *Pitta* and *Vata* causes *Daha* and *Vaivarnya* respectively. *Pidaka* in *Vicarcika* is formed by morbid *Mamsa dhatu* by *rukshata* effect of both *Khadira* and *Amalaki* the size of *Pidaka* was reduced by 27%. *Lasika* was involved in *samprapti* results excessive oozing i.e. *Srava* from lesions. Due to *Kustagna* and *Rukshata* property of drugs in the formulation resulted in 38% reduction in the symptom *Srava*. In patients suffering from the *Eczema* because of the rent in the skin there is every possibility for secondary infections and it is proved by different studies that *Khadira* also have added effects like antifungal and antibacterial which prevents secondary infections¹⁵. This implies that the *Khadira Rasayana* is effective in the correction of all the morbidities of *Vata*, *Pitta*, *Kapha*, *Rasa*, *Rakta*, *Mamsa* and *Lasika* i.e. *Sapta dushya* of *Kusta*.

As *Vicarcika* run a chronic course of exacerbation and it is considered to be *bahudoshavasta*. The diseases with *bahudoshavastha* are well tackled with *shodhana chikitsa* followed by *shamana*. As this study was designed to focus on efficacy of *Khadira rasayana* in subjects of *Vicarcika*, so one day of *koshtha shodana* was given. This might be the reason for partial improvement seen in this study. To improve overall effect of *Khadira rasayana* can be increased by additional treatment modalities. Patients are to be administered with *sampurna shodhana* prior to the *rasayana* therapy. There are many other treatment protocols that can be adopted either prior or after or along with *rasayana* administration. Topical treatment plays major role in combating the symptoms so along with *Khadira rasayana* suitable topical agents can be prescribed for best response. The dosage of *rasayana* adopted in this study was *Madhyama* dosage, for better results *uttama matra* of *Khadira rasayana* can be tried. This study was carried out for only 30 days. Therefore it may be suggested to increase the duration of treatment until complete remission of the ill-

ness. There is also possibility of variation of effectiveness of *Khadira rasayana* mentioned in classics and the method adopted in this study.

From discussion it can be said that, *Khadira rasayana* is effectual work in subjects of *Vicarcika*, but for effective result the pre treatment with *Shodhana* and longer duration of *Shamana* with *Khadira rasayana* ensures best results. More to add the participants of the study had showed some added improvements like in the course of study 74% patients had improvement in their appetite and in 15 patients, 30% of relief in symptoms occurred by 15 days of treatment. Among 27 patients 4 patients had *Padadari* there was significant change in symptoms of *Padadari*. In 5 female patients, reduction in *Mukhadooshiaka* was observed.

CONCLUSION

Khadira Rasayana showed statistically significance in remission of sign and symptoms as well as by improving the quality of life. In this study 81.4% patients had Moderate improvement, 14.81% had best improvement and in only one patient the symptoms was unchanged. This is pointing towards efficacy of *Guduchi Rasayana* in overall symptomatology of *Vicarcika* as evidenced by primary and secondary outcome measures.

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