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### A Pilot Study On Role of Ayurvedic Drug In The Management of *Kitibha-Kushtha* W.S.R To Psoriasis

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#### ABSTRACT: -

Psoriasis is common non-infectious skin disease but it has become one of the most challenging diseases in 21<sup>st</sup> century. The impact of the disease is on the quality of life because of its association with social impact. Frequency, persistence and recurrent nature are the three main problems while treating Psoriasis. It is a common, chronic and non- infectious skin disease characterized by well-defined slightly raised, dry erythematous macules with silvery scales and typical extensor distribution affecting any sex & having incidence at any time throughout the life. The holistic approach of Ayurveda management of diseases is key for present scenario. The present study was planned for betterment of the patients suffering from the psoriasis and to avoid the adverse effects of the drugs used in the modern medicine. So, a pilot study on role of ayurvedic drug in the management of *kitibha-kushtha* w.s.r to psoriasis has been planned and executed. Patients were advised to take *Khadir-Karvellakadiyoga* (hypothetical) orally and apply *Gandirikadi Taila locally*. Results were assessed on the basis of improvement in the objective and subjective symptoms and highly significant results were found.

**Keywords:** Psoriasis, erythematous, macules, *kitibha-kushtha*



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## INTRODUCTION

Charming personality & good looks are prerequisite for success in 21<sup>st</sup> century. Any change in the skin either good or bad has tremendous impact on person's daily life. Skin is just like a mirror which reflects our emotions & aspects of normal physiology. Psoriasis is one the most dreadful dermatological condition affecting up to 2.5% of the world's & approximately 0.8% Indian population<sup>[1]</sup>. It is a common, chronic and non- infectious skin disease characterized by well-defined slightly raised, dry erythematous macules with silvery scales and typical extensor distribution affecting any sex & having incidence at any time throughout the life.<sup>[2]</sup> Peak incidence period is 3<sup>rd</sup>&4<sup>th</sup> decade of life due to which patients find themselves helpless to do daily routine work. Social embarrassment is a key factor to these patients due to which they get frustrated and suicidal tendency developed to large extent. In *Ayurveda* all dermatological conditions are grouped under broad term *Kushtha* which again have two divisions *Mahakushtha* & *Kshudrakushtha*<sup>[3]</sup> on the basis of their symptoms, severity & involvement of deeper *Dhatus*. The psoriasis has a wide range of presentation from just a single spot to involvement of whole body. Careful analysis of the nature of disease shows a close resemblance of symptoms between Psoriasis & *Kitibha-kushtha*. The holistic approach of Ayurvedic management of diseases is key for present scenario.

## AIMS & OBJECTIVES

- Clinical evaluation of role of *Khadir-Karvellakadi yoga* (hypothetical) along with *Gandirikadi Tail*<sup>[4]</sup> for local application on the psoriatic patches in Management of Psoriasis.

## MATERIAL AND METHODS

The study was conducted on 10 clinically diagnosed & confirmed cases of Psoriasis from OPD & IPD section of associated group of hospitals of M.M.M Govt. Ayurveda College, Udaipur

### Criteria Of Inclusion:

1. Patients who are willing for trial.
2. Patients in the age group of 15 – 60 years.
3. Patients of *Kitibha-Kushtha* diagnosed by *Ayurvedic* classics and psoriasis diagnosed by Modern classics.

### Exclusion Criteria:

1. Patients with age below 15 & above 60 yrs.
2. Pregnant women's & lactating mothers.
3. Patients suffering from serious systemic disorders like Diabetes Mellitus, Cardiac & Renal Disorders, Malignant disease, Major liver disorders etc.

### Posology

Drug selected for current clinical trial was *Khadir Karvellakadi yoga* (Hypothetical) for systemic use and for local application *Gandirikadi taila*

Powder extract of the all drugs have been taken in a 500 mg capsule i.e.;

1. <i>Khadir</i> extract	125mg
2. <i>Giloya</i> extract	125mg
3. <i>Madhuyasthi</i> extract	125mg
4. <i>Karvellaka</i> extract	125mg
Total capacity	500mg

**Preparation of *KhadirKarvellakadi yoga*:**

Powder extract of above drugs were purchased from anjum herbal extract company (GMP certified) and then total mixture of all extract were dried in M.M.M. Govt. Ayurveda college pharmacy and filled in the empty capsules capacity 500mg with manual capsule filling machine under job card no-140.

**Preparation of *Gandirikadi Taila***

For local application *GandirikadiTaila* was prepared in Pharmacy of M.M.M. Govt. Ayurveda College according to *Tail paka* method described in sushruta samhita.<sup>[5]</sup> Here *Snuhi ksheer, Chitrakmool, Bhringraj, arkadugdha, Kutha, Amaltash twak* and *saindhav lavan* is used as *kalka dravya*, *til taila* is used as *Sneha Dravya* and *Gomutra* is used as *Drav Dravya*.

**Plan of Study**

All the patients fulfilling the criteria of diagnosis and inclusion were advised for *Khadir-*

*Karvellakadi yoga* orally and for local application patients were advised to apply *GandirikadiTaila*.

- Duration of Trial: 2 months.

**Criteria Of Assessment:****Subjective parameters:**

- 1 PASI Score (Psoriasis area & Severity Index)
  - 2 *Kandu* (Itching index)
  - 3 *Daha* (Burning index)
1. **PASI Score<sup>[6]</sup> (Psoriasis area & Severity Index):**

- PASI Score was considered as both subjective & objective criteria as it covers both subjective as scaling, indurations and objective parameters as coverage area.

**Elements:**

- A. Body regions as percent of body surface area
- B. Extent of body region affected
- C. Extent of psoriatic changes

**A. Body regions as percent of body surface area:**

Body Regions	Code	% Body surface area
Head	H	10
Trunk	T	20
Upper extremities	U	30
Lower extremities	L	40

**B. Extent of body region affected:** Different Body regions & their extend indicator were tabulated as follows.

Percentage of body region affected	Extend indicator
0 – 5%	0
5 – 25%	1
25 – 45%	2
45 – 55%	3
55 – 75%	4
75 – 95%	5
95-100%	6

### C. Extent of psoriatic changes:

This was graded as follows given in the table.

Symptoms	Code	Extend
Erythema	E	0 – 4
Infiltration	I	0 – 4
Desquamation	D	0 – 4

**PASI** = SUM (percent BSA in body region)\* (extent Erythema in region) + (extent infiltration in region) + (extent desquamation in region)\* (extent of body region affected) = [0.1\* (Erythema head) + (infiltration head) + (desquamation head)\* (extent of head affected)] + [0.2\*(Erythema trunk) + (infiltration trunk) + (desquamation trunk)\* (extent of trunk affected)] + [0.3\*(Erythema upper extremities) + (infiltration upper extremities) + (desquamation upper extremities)\* (extent of upper extremities affected)] + [0.4\* (Erythema lower extremities) + (infiltration lower extremities) + (desquamation lower extremities)\* (extent of lower extremities affected)]

Interpretation:

**Minimum score – 0**

**Maximum score – 72**

**2. *Kandu* (Itching index):** Symptom rating scale was as follows.

0: No Itching

1: Mild Itching comes occasionally, duration 2/3 min,

2: Moderate itching occurs frequently, lasts for longer time, scratching is essential.

3: Severe Itching, Occurs frequently, lasts

More than 20-30 min, bleeding on scratching.

**3. *Daha* (Burning index):** Symptom rating scale was as follows.

0: No burning.

1: Mild burning comes occasionally, duration 2-3 min.

2: Frequent burning sensation more than 3 times last for 10 min.

3: Severe burning sensation more than 5 times, lasting more than 15 min, disturbs daily routine.

**Objective parameters:**

1. Routine blood count: Hb%, TLC, DLC.

2. ESR

3. Liver Function test: (SGOT,SGPT)

### OBSERVATION:

There was higher incidence rate in 2nd, 3rd & 4th decade of life. Male and female ratio was 5:1. Majority of the patients enrolled belonged to urban areas (60%). Majority of the patients of study were married (86.66%). Educational status shows higher ratio of graduates (60%). As per food habits, 73.33% vegetarian and 26.66% on mixed diet. Among the total patients enrolled 56.66% were smokers, 50% were alcoholic and 43.33% have addiction of Tobacco chewing. Majority of the patients enrolled were belonged

to upper middle class of society (40%). Among the total patients 6.66% patients have positive family history of the disease. Majority of the patients enrolled for the study were of *vata kapha*

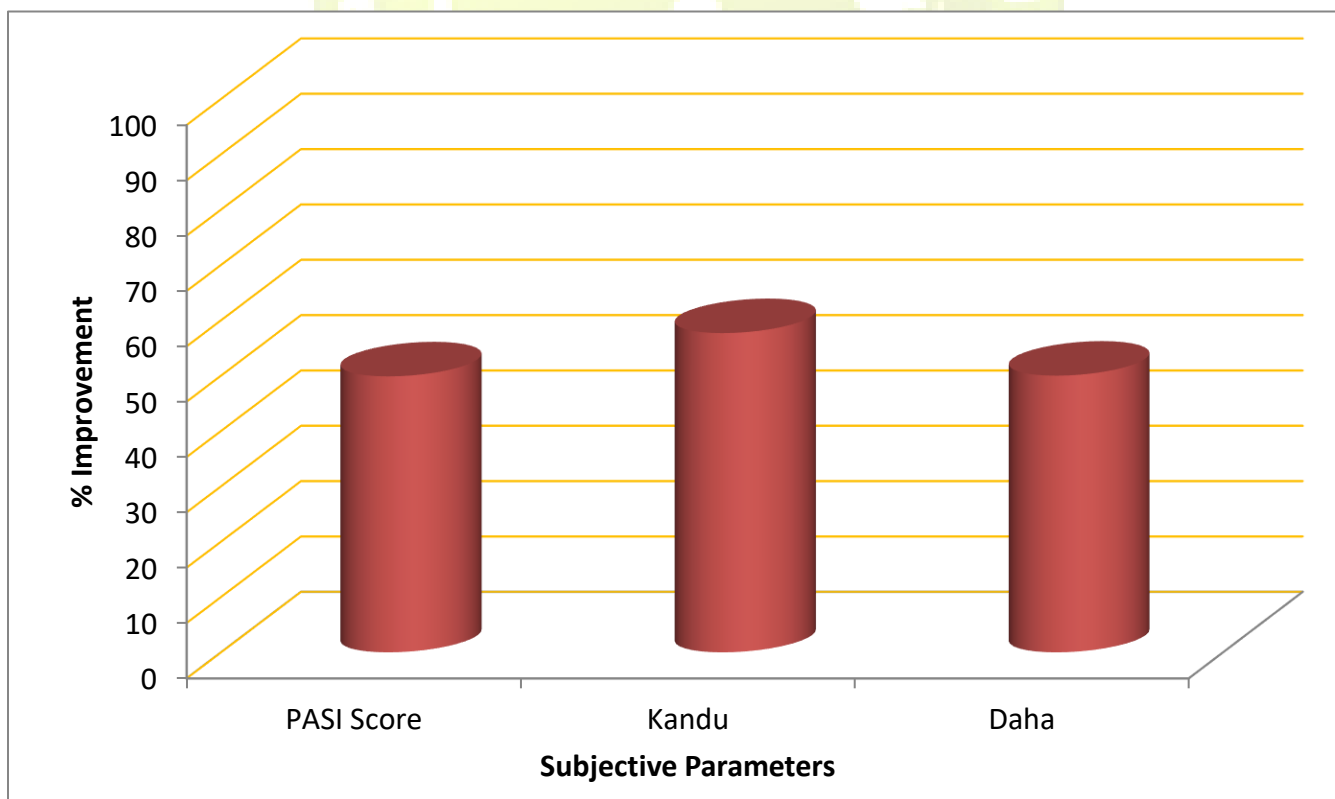
*prakriti* (60%) & *Tamasik prakriti* (46.67%). Maximum 53.33% patients were having *Madhyam koshta*.

## RESULTS:

**Table No. 1: Showing effect of Therapy in Subjective Parameters. (Wilcoxon matched paired single ranked test)**

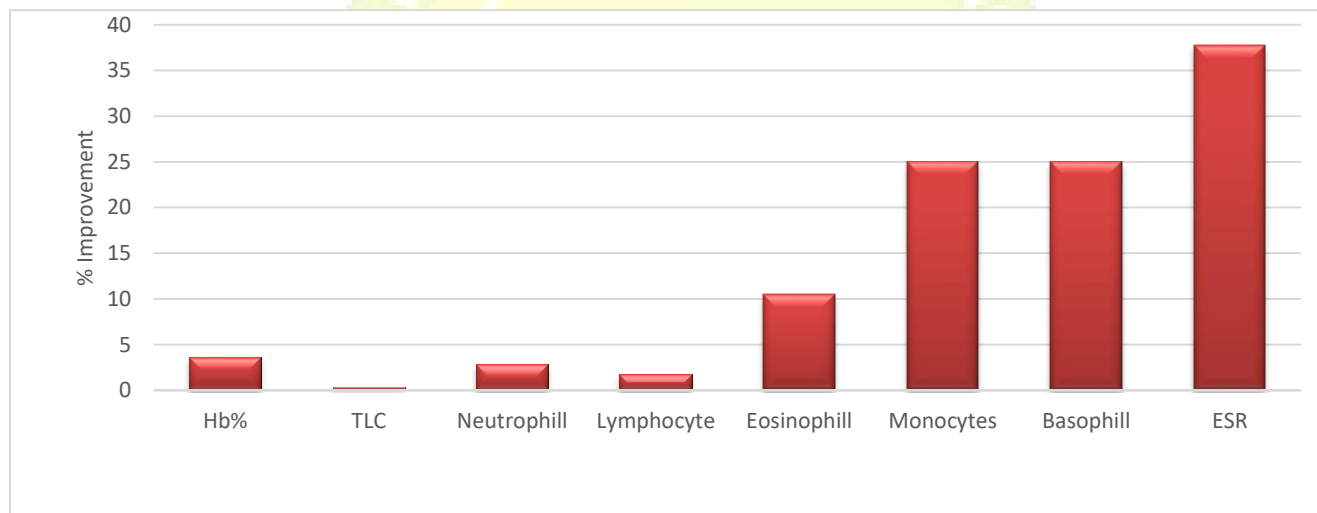
Variable	Mean		Mean diff	% relief	SD±	SE±	p	S
	BT	AT						
PASI Score	24.14	12.10	12.04	49.87	6.07	1.92	0.003	HS
<i>Kandu</i> (Itching Index)	2.60	1.10	1.50	57.69	0.52	0.16	0.002	HS
<i>Daha</i> (Burning Index)	1.20	0.60	0.60	50.0	0.51	0.16	0.03	S

**Graph No. 1: Showing effect of Therapy in Subjective Parameters.**



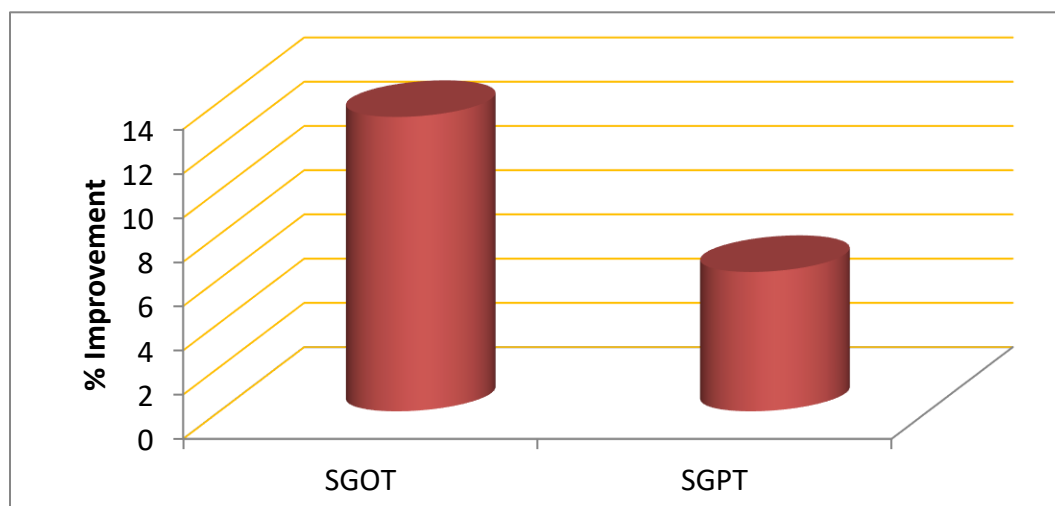
**TableNo.2 Showing improvement in Hematological Investigations(Paired t Test)**

Parameter	BT	AT	Diff	% Imp	SD±	SE±	t	p	S
Hb%	12.55	13.01	0.46	3.66	1.07	0.33	1.35	0.20	NS
TLC	5740	5720	20	0.34	204.40	64.63	0.30	0.76	NS
Neutrophils	64.20	62.40	1.80	2.80	3.45	1.09	1.64	0.13	NS
Lymphocyte	34.30	33.70	0.60	1.74	1.17	0.37	1.61	0.14	NS
Eosinophill	1.90	1.70	0.20	10.5	0.78	0.24	0.80	0.44	NS
Monocytes	1.60	1.20	0.40	25	0.96	0.30	1.30	0.22	NS
Basophill	0.40	0.30	0.10	25	0.56	0.17	0.55	0.59	NS
<b>ESR</b>	<b>31.20</b>	<b>19.40</b>	<b>11.80</b>	<b>37.8</b>	<b>11.04</b>	<b>3.49</b>	<b>3.37</b>	<b>0.008</b>	<b>HS</b>

**Graph No.2 Showing improvement in Hematological Investigations****Table No. 3: Showing Effect of Drug on LFT:**

Variable	AT	BT	Diff	% imp	SD±	SE±	t	P	S
SGOT	29.30	25.40	3.90	13.31	3.51	1.11	3.51	0.006	HS
SGPT	28.50	26.70	1.80	6.31	4.02	1.27	1.41	0.19	NS

Graph No. 3: Showing Effect of Drug on LFT:



## DISCUSSION

### ★ Probable Mode of action of *Khadir Karvellakadi yoga*:

Acharya Charak mentioned *Khadir* as “*Agaryadravya*”<sup>[7]</sup> in *Kushtha Roga* so selection of *khadir* for oral use is justified. *Kushtha* is a *Rakta pradoshaja vicar*<sup>[8]</sup> mentioned by Acharya charak. So, while treating it specific consideration of *Raktadhatu* is essential. In *ayurvedic* classics *Khadir* and *Karvellaka* is well known for its *Raktashodhan* & *Raktaparasadan*<sup>[9]</sup> property. According to *Ayurveda Yakrut & Pleeha* (Liver & Spleen) are site of formation of *Raktadhatu*. *Giloya*<sup>[10]</sup> and *karvellaka* are having potent Hepatoprotective action. These drugs act on the formation site of the *Raktadhatu* & break the basic pathogenesis of *Kushtha*. *Khadir* extract is known to contain catechin<sup>[11]</sup> which have significant antioxidant and antimicrobial effects<sup>[12]</sup> it also has hepatoprotective properties. *Guduchi*<sup>[13]</sup> and *madhuyasthi*<sup>[14]</sup> has potent Anti-inflammatory, Analgesic, Antibacterial, Immunomodulatory, Antioxidant property. It plays key role in reducing inflammation & early prematuration of

cells. Drug in the formulation except *Madhuyasthi* has *Tikta, Katu Kashaya ras*, & having *Kushthagna, Kundugna* Property which pacifies the vitiated *Doshas* mainly the *Kapha dosha*. On the account of having dominance of *Tikta-katu rasa & Ushna veerya* causes digestion of *Ama* & clears state of the *Mandagni* which is the main causative factor of *Kushtha*. Number of studies has shown that psychological stress is often caused by psoriasis, and can be a factor in flaring of psoriasis. Conversely, psychological stress can affect the course of the disease as well as contribute to psychological problems such as depression, anxiety and unfocused anger.<sup>[15]</sup> Stress is main triggering factor of psoriasis, *Giloya* and *Madhuyasthi* is having potent *Medhya* property which relives stress & balances the Central nervous system. *Giloya and Madhuyasthi* has potent *Rasayan*<sup>[16]</sup> property which helps in preventing the multiple relapses of the disease by strengthening body’s own immune system. *Karvellaka* extract inhibit cancer and tumour formation. A novel phytochemical in *Karela*<sup>[17]</sup> has clinically demonstrated the ability to inhibit an enzyme named guanylate-cyclase. This enzyme is

thought to be linked to the pathogenesis and replication of not only psoriasis, but leukaemia and cancer as well. Other phytochemicals that have been documented with cytotoxic activity are a group of ribosome-inactivating proteins named alpha and beta momorcharin, momordin and cucurbitacin B.

Thus, by these actions we can say that *Khadir Karvellakadi yoga* act on the root cause of the disease & breaks the basic pathogenesis of *Kitibha Kushtha*.

★ **Probable Mode of action of Gandirikadi Tail:**

Patients were advised for external application of it on the patches. The patches of Psoriasis are dry & Scaly. *Gandirikadi Tail* provides proper moisture to it resulting in slowing of rapid turnover of epithelium. As dryness reduces some sort of soothing analgesic effect is experienced by the patient. Commonly itching experienced by the psoriatic patients is due to excessive dryness of lesions so local application of *Gandirikadi Tail* shows beneficial results to patients. *Gandirikadi tail* contains *Arka-Ksheer*<sup>[18]</sup> and *Snuhi-Ksheer*<sup>[19]</sup> which have anti-proliferative properties that cause inhibition of scaling. According to Dermal drug delivery system of modern science skin shows the better absorption of lipid & lipid soluble substances than water soluble molecules.<sup>[20]</sup> So according to this theory *Gandirikadi tail* shows better penetration in skin with carrying properties of Drugs added to it.

## CONCLUSION

From these observations, we can conclude that *Ayurvedic* drugs are very effective to relieve the symptoms of *kitibh-kushtha*. These drugs selected have anti-proliferative, Anti-inflammatory, Analgesic, Antibacterial, Immunomodulatory, Antioxidant property and some drugs also cure the stress and anxiety of

disease by their *medhya* property. Thus, finally we can conclude that administration of *Khadir-Karvellakadi yoga* along with local application of *Gandirikadi tail* is effective in management of Psoriasis as it is safe, cost effective & free from any side effects.

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**Conflict of Interest: Nil**

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