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Clinical efficacy of *Laghumanjishthadi Kwath* in the Management of *Kitibh Kushtha* w.s.r. to Psoriasis

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Abstract

Psoriasis is an inflammatory skin disease, in which skin cells replicate at an extremely rapid rate. It is characterized by sharply defined erythematous lesions with dead cells building up on the skin; forming thick and flaky patches called plaques. Psoriasis, although not fatal, can be painful and profoundly disruptive to one's life. The disease is common, chronic and costly both in monetary terms and quality of life with no reliable solution all over the world. Majority signs and symptoms of psoriasis resemble with those of *kitibh kushtha*, a type of *kshudra kushtha*, mentioned in Ayurveda. So a study with aim to evaluate the clinical efficacy of *Laghu Manjishthadi Kwath* (ref. *Brihat Yog Tarangini*) in management of *kitibh kushtha* with special reference to psoriasis was carried out on 30 patients diagnosed with psoriasis, of either sexes with age more than 18 years, without any other co morbidity or medication. The drug was found to be significantly effective in pacifying all the signs and symptoms of psoriasis (itching, blackish discoloration, erythema, scaling, dryness, plaques /keratosis, discharge and fissuring). The study provides strong evidences that prove keratolytic, antipruritic, anti-inflammatory and immunomodulatory activities of the drug without producing any side effects.

Keywords

Psoriasis, Kitibh kushtha, Laghumanjishthadi kwath, Anti-inflammatory, Immunomodulatory, Ayurveda

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INTRODUCTION

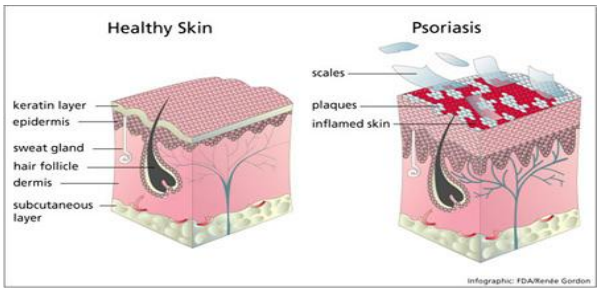
Psoriasis is at all times and under all forms a very troublesome and often an intractable disease but it is rarely dangerous to life. Psoriasis is a chronic lifelong condition. There is currently no cure, but various treatments can help to control the symptoms. Many of the most effective agents used to treat severe psoriasis, carry an increased risk of significant morbidity including skin cancers, lymphoma and liver disease. **Table 1**.

Table 1 Available conventional treatment and their side effects

Conventional Treatment of Psoriasis	Side Effect
Systemic Corticosteroid therapy	Pustular flares that can be fatal
Methotrexate	Hepatic fibrosis, bone marrow suppression
PUVA	Induced skin cancers with metastases
Synthetic retinoid – acitretin	Potent terratogen
Immune suppressive agent – cyclosporine	Hypertension, kidney damage
Topical Corticosteroids	Tachyphylaxis, thinning of skin
Calcipotriol / calcipotriene	Irritant dermatitis
Dithranol and coal tar	Too messy / inconvenient

In psoriasis, an activated immune system triggers the skin to reproduce every three to four days, building up on the outer layers (epidermis and Keratin). The epidermis thickens, blood flow increases and reddens the skin and silver gray scales cover it (**Fig 1**).

Figure 1 Histology of Psoriasis



The histological presentation of Psoriasis affected dermal layers presents a unique appearance. Hyperkeratosis is present on the very outer layer with characteristic thinning of the papillae area of the Malpighian layer. Lengthening of the dermal-epidermal folds is seen and capillary loops are somewhat dilated and tortuous within. This results in the blood vessels of the dermis lying much closer to the adjacent hyperkeratotic surface and this can result in regular bleeding[1,2]. Increased numbers of T lymphocytes and dendritic cells are a highly consistent finding in psoriasis biopsies. The anomalies in protein expression can be divided into three areas viz., abnormal keratinocyte differentiation, hyperproliferation of the keratinocyte and infiltration of inflammatory elements[3]

Signs and Symptoms

The appearance of a typical lesion is characteristic for psoriasis. The typical lesions are either coin-shaped, merging big palm-sized plaques, full rich red (salmon pink) coloured with a particular depth of hue and opacity. Most psoriatic lesions are surmounted by the very characteristic silvery white scaling. Psoriasis can be diagnosed when there is a classical silvery white scaling and the Auspitz sign.

When hyperkeratotic scale is removed from a psoriatic plaque by scratching, within few minutes, small blood droplets appear on erythamatous surface. This phenomenon is called Auspitz sign. This sign occurs only in psoriasis.

When the condition progresses to the development of silvery scales, the physician can usually diagnose psoriasis and for confirmation skin biopsy may be done. Biopsy is seldom necessary as the clinical picture is usually characteristic.

Psoriasis in context with Ayurveda:

To study psoriasis in terms of Ayurveda, it has to be compared with all the mentioned varieties of *kushtha*. It is *alpadoshaarambha*, has less tendency to penetrate to deeper dhatu and there is less functional deformity of skin, therefore it can be considered as *kshudrakushtha* but on the other hand, it is chronic, needs *mahat chikitsa* and there is excessive discomfort and *bahu lakshan* in Psoriasis. By this it can be considered as *Mahaktushtha*.

On comparing the signs and symptoms, different types of psoriasis resemble various types of *kushtha*.

1) Generalized Plaque type – *Ekakushtha/ Kapala kushtha/ Rushyajihva*
2) Guttate Type –*Sidhma Kushtha*
3) Palmoplantar – *Vipadika*
4) Erythrodermal –*Audumbara Kushtha*
5) Flexural – *Mandala Kushtha*
6) Pustular –Complications of *kushtha.*

Some features in these types can't be correlated completely e.g. *Todabahulya*, a major symptom of *kaapala kushtha* is not found in psoriasis. *Aswedana* in *Ekakushtha* is not found always in psoriasis. Some features of psoriasis might not be correlated with any type of *kushtha* such *anukta* (unlisted) diseases are to be acknowledged by the pattern of *dosha dushti*[4,5]. The signs and symptoms of psoriasis resemble with those of *vatakapha dushti*. Among *vatakaphaj kushtha* types, *kitibh kushtha* is most similar in presentation. So by using the law of "*Vyapadeshastu bhuyasa*[6]", Psoriasis

can be correlated with *kitibh kushtha*[7] as shown in **Table 2**.

Table 2 Comparison of Kitibh Kushtha and Psoriasis

Sr. No.	*KITIBH LAKSHANA*	PSORIASIS FEATURES
1	*Kinakhara sparsha*	Scaling
2	*Shyawam*	Bluish tinged discolouration
3	*Parusha*	Dryness
4	*Sravi*	Dischange
5	*Vritta*	Oval to round lesions
6	*Ghana*	Keratosis / Elevation
7	*Ugrakandu*	Severe pruritis
8	*Snigdha krushna/Rakta krushna*	Erythematous plaques
9	*Prashantani cha punah utpadyate*	Common episodes of remissions and relapses
10	*Drudhan punah prasravati*	Auspitz's sign.

So this study was initiated to evaluate the clinical efficacy of *Laghumanjishthadi Kwath* in treating *kitibh kushtha* as mentioned in *Brihatyog Tarangini*[8], with special reference to Psoriasis.

MATERIALS AND METHODS

1) ***Patients*** – 60 patients clinically diagnosed with psoriasis were included.

Inclusion criteria –

Patients of all socioeconomic status irrespective of sex and religion; age not less than 18 years were selected for the study on the basis of following clinical signs and symptoms of *Kitibh kushtha- Ugra Kandu* (Itching), *Shyawata* (Blackish discolouration), *Rakta Krushna* (Pinkish/Reddish/Discolouration), *Kinakharasparsha* (Roughness of skin with scaling), *Parushya* (Dryness), *Utsedha/Ghanata* (Thickening/Elevation/ Keratosis), *Srava* (Discharge), *Avadaran* (Fissuring/Cracking).

Exclusion Criteria –

i) Infective Origin – Koch's, Hansen's disease, Herpes zoster, Scabies, Fungal infections.

ii) Any other dermatological co-morbidity

iii) Immuno-compromised patients - HIV, HBV

iv) Oncogenic origin

v) Systemic disorders – like Diabetes mellitus, Congestive cardiac failure, varicose veins, TAO.

2) Drug: **Table 3**

Abhyantar shaman by freshly prepared *Laghumanjishthadi Kwath* with a dose of 40 ml, twice a day, at *jeerna anna kala* (almost at 7am and 5pm) for 30 days, was done. The patients were actually given the

Laghumanjishthadi bharad (Coarse powder) 40gm/day and were explained the procedure to prepare *kwath* as per the classical text[9]. (This inconvenience to patient was necessary because the *kwath kalpana* should be freshly prepared every time.)

Table 3 Laghumanjishthadi Kwath (Coarse Powder) Composition

Sr. No.	Drug Name	Latin Name
1	*Manjishtha*	Rubia cordifolia
2	*Ugra*	Acorus calamus
3	*Haritaki*	Terminalia chebula
4	*Bibhitak*	Terminalia bellirica
5	*Amalaki*	Emblica officinalis
6	*Tikta*	Picrorrhiza kurroa
7	*Nisha*	Circuma longa
8	*Nimba*	Azadirachtha indica
9	*Amurata*	Tinospora Cordifolia
10	*Amar*	Cedrus deodora
11	*Trivrut*	Operculina turpethum
12	*Khadira*	Acasia Catechu

3) Follow Up –

Follow-up for further medication was done on 7th, 14th, 21st day. On 31st day after commencement of treatment, thorough clinical assessment was done and photographs of some classical lesions were taken. The patient was then advised to visit the OPD after every 15 days for 2 months. Any regression or aggravation or no change in signs and symptoms were observed and the condition of the patient on 90th day was considered as the final effect of the drug.

***4) Criteria for assessment of clinical result* –Table 4**

i) These criteria were assessed and scored as follows-

0 – Normal;1 – Mild; 2 – Moderate; 3 - Severe.

Composite score of above parameters was drawn and suitable statistical tests were applied to infer, the therapeutic efficacy of drug.

ii) The presence or absence of Auspitz's sign was noted.

iii) The surface area covered by lesions was calculated by The Rule ofNines.

5) Criteria for the assessment of overall effect of the therapy:

The total effect of the therapy was assessed considering the overall improvement in signs and symptoms on 90th day, as follows:

1) Complete remission - 100%
2) Marked improvement - 76-99%
3) Moderate improvement - 51-75%
4) Mild improvement 26-50%
5) No improvement Up to 25%

Table 4 Criteria for Assessment

Criteria	0	1	2	3
Ugra kandu (itching)	No	Mild / occasional	Mod. and Tolerable	Intolerable
Shyawata (blackish discoloration)	Normal Skin	Looks normal distantly	Dark red to brown	Dark brown to black
Rakta krushna (pinkish/reddish Discoloration)	Normal skin	Pale to pink	Reddish	Dark red
Kinakhara sparsha (roughness with scaling)	No	Mild at some lesions on rubbing	At all lesions on rubbing	At all lesions without rubbing
Parushya (dryness)	No	Mild	Mod.	Severe
Ghanata (keratosis)	No	Mild	Mod.	Very thick
Srava (discharge)	No	Occasional on itching	Occasional without itching	Persistant
Avadaran (fissuring)	No	Superficial	Deep	Very deep

OBSERVATION AND RESULTS

1) Improvement in the lesions: **Fig. 2 - 5.**

2) Overall improvement: Ten patients had no improvement, three had mild improvement, three had moderate improvement, eight showed marked improvement whereas, six subjects had complete remission of psoriasis.

3) The patients showing improvement more than 50% were considered to be cured. Remaining subjects were not cured. So, 18 patients were cured by *Laghumanjishthadi kwath*.

4) This apparent symptomatic improvement in the patients was proved by applying statistical tests to the assessment parameters (variables) mentioned above.

I] According to Paired 't' test applied to each criteria of assessment, *Laghumanjishthadi kwath* was found to be significantly effective in treating all the signs and symptoms of *kitibh kushtha*. **Table 5.**

II] According to Reduction Mean Score, *Laghumanjishthadi kwath* is significantly effective in all the criteria except "*Kinakhara Sparsha*" (roughness/scaling) and Srava (discharge). **Table.6.**

DISCUSSION

Probable Mode of action[10,11]:

The overall mode of action can be made out by summation of characters of all the drugs along with their effects on the pathogenesis of the disease.

1) All the drugs are of *laghu* and *ruksha* guna except *Guduchi* which is *guru* and *snigdha* therefore, ***Kledashosha*** is done effectively by the *kwath*.

Table 5 Statistical Analysis Part 1

Sr. No.	Criteria of Difference	Mean Difference	S.D.	S.E.	T_{cal}	Probability Of chance
1	*Ugra kandu*	1.53	0.68	0.12	12.32	P<0.001;P<0.05
2	*Shyawata*	0.63	0.66	0.12	5.18	P<0.05;P<0.001
3	*Rakta Krushnata*	1.1	0.60	0.11	9.91	P<0.05;P<0.001
4	*Kinakhara Sparsha*	1.5	0.97	0.17	8.43	P<0.05;P<0.001
5	*Parushya*	0.96	0.61	0.11	8.60	P<0.05;P<0.001
6	*Ghanata*	0.86	0.57	0.10	8.30	P<0.05;P<0.001
7	*Srava*	0.60	0.67	0.12	4.87	P<0.05;P<0.001
8	*Avadaran*	0.96	0.66	0.12	7.91	P<0.05;P<0.001
9	% Area covered	5.03	3.21	0.58	8.58	P<0.05;P<0.001

Figure 2 Before treatment

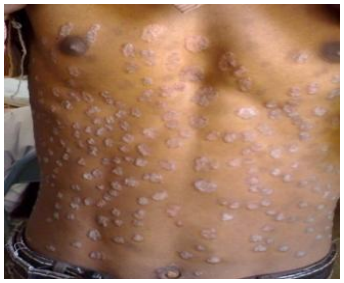


Figure 3 After treatment

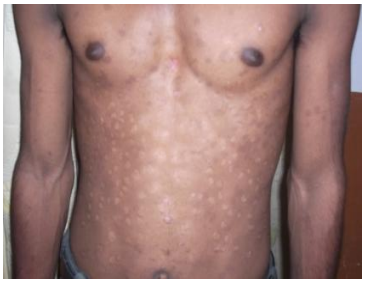


Figure 4 Before **t**reatment

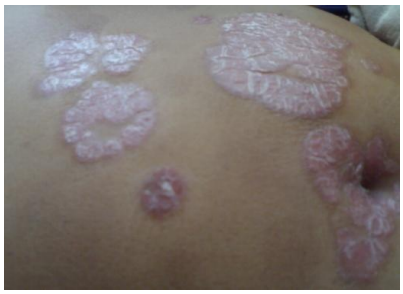
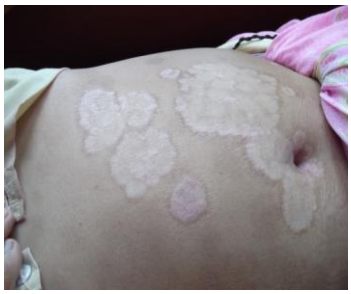


Figure 5 After treatment



2) All the drugs are of *Tikta* and *Kashaya rasa*. So, ***Aam pachan, Agnidipan***, *kleda shoshan, pitta* and *kapha shaman* was expected so that ***rakta prasadan*** action is effectively carried out.

3) *Guduchi* and *Triphala* have *madhur vipak*, which is useful to **pacify the *pitta dosha in rakta***. It also helps in *sarva dhatu vardhan* and acts as ***rasayana.***

4) Some drugs are of *ushna* and some are of *sheet virya*. The *ushna virya* helps in *aamapachan*, *srotoshodhan* and *agnidipan* and ***shita virya* is critical in *rakta prasadan***.

5) All the drugs have their actions targeted mainly on ***rasa, rakta and mamsa dhatu***. These three are the main components of *kushtha samprapti*.

6) *Kutaki, Trivrutta* and *Triphala* are mainly ***virechak*** dravya. Many other drugs also have minor function of *vata anulomana*. This *virechak* property is very critical in destroying the *doshasanghata* which is the main factor in *kushtha* formation. Frequent *shodhan* is indicated in *kushtha*[12]. So *Laghumanjishthadi kwath* plays a major role by its **mild purgative action**.

7) The experimentally proven properties of individual herbs are **Anti-inflammatory**, Antioxidant, Antitumour, Cytotoxic, Mild CNS depressant, antibacterial and **immunomodulant**.

Table 6 Statistical Analysis Part 2

Sr. No.	Criteria of assessment	$B.T._{mean}$	$A.T._{mean}$	R.M.S.
1	*Ugra kandu*	2.16	0.63	1.53
2	*Shyawata*	1.56	0.93	0.63
3	*Rakta Krushnata*	2.06	0.96	1.10
4	*Kinakhara Sparsha*	1.93	0.96	0.97
5	*Parushya*	1.96	0.46	1.50
6	*Ghanata*	1.93	1.06	0.87
7	*Srava*	0.7	0.1	0.6
8	*Avadaran*	1.06	0.1	0.96
9	% Area covered	24.03	19	5.03

8) **Effect of drug on Psychology–**

Vacha and *Devdara* are **fragrant** drugs. The volatile oils present in them enhance the psychological status of the patients. Both are indicated in *Ayurveda* as *Unmada, Apasmara, Bhutabadha, Akshepa and Balagraha*. This proves their role in treating psychological or nervous disorders. *Haritaki* destroys the *mala sanchay* and therefore, brings the patient out of ***Jadya* i.e., depression**. It also does ***indriya prasadan and buddhi, medha vardhan***[13]. *Vacha*, also is *Medhya* by *ushna virya*. It enhances the nutrition of *Majja dhatu*.

Overall Enhancement in Health: Wellbeing feeling, *kshudha vruddhi*, *samyak nidra*, bowel regulation, increased alertness (*utsaha vruddhi*) were seen in almost all patients. The drugs had overall major effect on *rasa, rakta, mamsa*, and *shukra dhatu*.

These *dhatu* are closely related to *twacha*. The drugs therefore, are significantly effective in treating *kushtha*.

Limitations sought during the study:

Laghumanjishthadi kwath showed about 15% failure in treating patients with *Pravara bala* disease and 14% failure to treat *Madhyabala* disease. But this failure of drug should not be attributed to the efficacy of the drug, instead it is the strength of disease, physical and mental constitution of the patient, strength of the *hetu sevan*, chronicity, environmental conditions, which all together contribute in the success and failures of the treatment.

After completing three months of follow-up of research work, we followed and treated some patients with a multidimensional aspect that is Samshodhan, bahya and abhyantar shaman. This gave drastic results in most of the patients of *pravarabala vyadhi* with no recurrence of symptoms at least, within 8 to 12 months. Which means that the ideal line of treatment for complete remission of psoriasis, should not be a single drug therapy. Instead, complete and frequent *Samshodhan*, frequent *snehan*, *bahya* and *abhyantar shaman* should be done to cure, rather uproot the disease.

CONCLUSION

The study provides significant results which prove keratolytic, antipruritic, anti inflammatory and immunomodulatory activities of *Laghumanjishthadi kwath* without producing any side effects. Majority of patients disturbed the normal functioning of *agni* by committing multiple mistakes (*hetu*) for a long time. So it can be inferred that the *Ama* produced by hindered *agni* and the vitiated *doshas* create a vicious cycle that when chronically goes on, damages and modifies various tissues such that, they are attacked by one's own immune system. The drug studied here played a major role in Ama pachan and detoxifying the body in generalized manner.

The encouraging results of symptomatic improvement in psoriasis by Laghumanjishthadi kwath, without any hazardous side effects like that in conventional therapies, prove its therapeutic efficacy and provide new ground for further research on large scale. More work is also needed on refining the tools for measuring the impact of psoriasis on an individual.

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13. *Cha. Chi. 1/1/29-34*