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To Evaluate the Efficacy of *Neem* & *Haritaki Churna* (Internally), *Stri Kutaja Taila* (External Application) & Vapour of Earthworm Soil in the Management of *Kitibha* (Psoriasis)

Karabi Kumari[1]* and Bishnu Prasad Sarma[2]

[1,2] Dept. of Kayachikitsa, Govt. Ayurvedic College, Guwahati, Assam, India

ABSTRACT

Psoriasis is a chronic inflammatory autoimmune condition which is characterized by elevated itchy plaques of raised red skin covered with thick silvery micaceous scales. Prevalence of psoriasis in India ranges from 0.5%-1.5% and 1-3% in America and Western countries. Lower prevalence rates are found in Japanese and rare in West Africans. Psoriasis occurs in 2% of world population according to British Medical Journals published in 2015. *Kitibha* is a type of *kshudra kustha* described in different Ayurvedic classics. It is a vata- kaphaja disorder. The clinical symptoms of Kitibha described in Ayurveda resembles with the clinical symptom's of Psoriasis. It is one of the most common dermatological problems of unknown etiology. Medicines which are used in Ayurveda are safe and being practiced since thousands of years. A large number of drugs are described in Ayurveda for the treatment of Kustha. Keeping this view in the mind, Neem and Haritaki were selected as oral drugs and snehan with Stri Kutaja taila followed by swedan with earth worm casting was chosen.

KEYWORDS

Psoriasis, Kitibha Kustha, Ayurvedic management

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INTRODUCTION

Psoriasis is a chronic inflammatory skin disorder clinically characterized by erythematous sharply demarcated papules and rounded plaques covered by silvery micaceous scales[1]. It is a chronic relapsing disease which precise cause is still unknown. Psoriasis represents a significant public health challenge, affecting approximately 125 million people globally**.** Prevalence estimates within adult populations range from 0.91% in U.S.A. and 8.5% in Norway[2]**.** Prevalence given by British medical journals Published in 2015, Psoriasis occurs in 2% of worlds population. Its prevalence estimated around 3.5% in Europe and the United States remains higher than those reported in Asia, Native Indian and black population of African descent [3-4]. In China and Japan, population based surveys have given a similar low prevalence ranging respectively from 0.05% to 1.23% and 0.29% to 1.18%. Prevalence of psoriasis in India ranges from 0.44% to 2.8% [5.]

In South Africa, the respective figures in blacks (Bantu Population) and whites have been evaluated to be 1.5% vs. 4% [6.] In South America, it seems more frequent in persons of Indian descent than in those of African descent[7]**.** Psoriasis can present at any age and has been reported at birth and in older people of advanced age. Accurate determination of the age of onset of psoriasis is problematic, as studies which do so typically rely on a patient's recall of the onset of lesions or determine the onset from the physician's diagnosis as recorded on the initial visit. Data based on patient recall can be inaccurate; determining onset based on first visit to a physician could underestimate the time of disease occurrence, as minimal disease may be present for years before a consultation is sought. A bimodal age of onset has been recognized in several large studies. The mean age of onset for the first presentation of Psoriasis can range from 15 to 20 years of age, with a peak occuring at 55-60 years[8-11].

In Ayurvedic classics the lakshanas of kitibha kustha are mentioned as scratching, rough, itching, course & black discoloration over the skin. It is mainly due to the vitiation of vata kapha dosha. It further reveal that the lakshanas of 'Kitibha kustha' match almost with that of the disease psoriasis, in order words kitibha and psoriasis can be correlated with each other. The present time of treatment for psoriasis comprises of Emollients, Tar, Dithrahnol, Corticosteroids, Vitamin-D analogues, phototherapy all of them having their own disadvantages[12]. In the present

situation there is need to evolve a more potent, easily available, non irritative economical therapeutic agent. This is very important as the nature of the disease is chronic and needs a long term management. Many efforts have been made to treat psoriasis in Ayurvedic line of treatment. Some of them were found effective but a 100% success is yet to come.

Medicines which are used in Ayurveda are safe and being practiced since thousands of years. A large number of drugs are described in Ayurveda for the treatment of Kustha. Keeping this view in the mind, Neem and Haritaki were selected as oral drugs and snehan with Stri Kutaja taila followed by swedan with earth worm castings was chosen**.**

AIMS & OBJECTIVES

To evaluate the efficacy of Neem & Haritaki Churna (internally), Stri Kutaja taila (external application) & vapour of Earthworm soil in the management of Kitibha (Psoriasis).

Ethical Committee Approval No. IEC/16 20 126

MATERIALS & METHODS

The clinical trial was completed at the Dept. of Kayachikitsa, Govt. Ayurvedic College, Guwahati, Assam, India. The total number of patients taken for the study was 78. All patients were assigned to a single group and were given Stri Kutaja (Wrightia tomentosa) taila for external application for three months along with earthworm soil vapour for 20 days, and 3 gm of Neem & Haritaki Churna, in divided doses, internally, for 3 months. The patients were strictly advised to follow pathyapathya & they were assessed according to criteria before & after treatment.

METHOD OF DATA COLLECTION:

a) Inclusion criteria:

- Patient between the age group of 10-70 years.
- Psoriasis patient which were diagnosed as per the criteria i.e., scaling, itching, erythema, dryness, auspitz sign , candle grease sign etc.
- Patient of either sex will be selected**.**

b) Exclusion criteria:

- Subjects with uncontrolled metabolic disorders that may interfere the course of treatment.
- Pregnant woman.
- Lactating woman.
- Patient having other than psoriatic skin diseases**.**

Duration of Treatment: 90 days, with 6 consecutive follow up at 15 days interval.

Parameter for assessment of result-

The following disease symptoms were graded and used as criteria for the purpose of assessment of clinical results.

SUBJECTIVE CRITERIA

Scaling:

a) Severe (3+) – If scaling covers maximum areas in the body

b) Moderate (2+) – If scaling appears in the limb

c) Mild (1+) – If scaling seen over minor parts

d) Normal (0) – No Scaling

Itching:

a) Severe (3+) – if itching disturbs the day today activities including sleep

b) Moderate (2+) – if itching disturbs only sleep.

c) Mild (1+) – if no disturbances in activities and sleep but only complains of itching

d) Normal (1+) No itching

Erythema:

a) Severe (3+) – More reddish in colour

b) Moderate (2+) – Pinkish red

c) Mild (1+) – White mixed red

d) Normal (0) – No erythema

Epidermal Thickening

a) Severe (3+) – 1mm thickness

b) Moderate (2+) – 0.5mm thickness

c) Mild (1+) – 0.25mm thickness

d) Normal (0)

Dryness

Dryness	**Before treatment**	**After treatment**
	Present/absent	Present/absent

OBJECTIVE CRITERIA

Based on the above grading the response of the patients to treatment were assessed and scores were given accordingly. The patterns of response of patients to the treatment were obtained through scoring technique **(Edwards, 1969)**.

	Before Treatment	**After Treatment**
Auspitz sign	Present/absent	Present/absent
Candle grease sign	Present/absent	Present/absent
Koebner's phenomenon	Present/absent	Present/absent
PASI scoring		

DATA ANALYSIS:

The data obtained from the above treatment was organized and summarized using the method of frequency distribution. It was then analyzed using appropriate statistical tools such as arithmetic mean, percentages, standard deviation and Z-test of significance

OBSERVATION AND RESULTS OF THE THERAPEUTIC TRIAL:

Among 78 patients, maximum number of patients i.e.,, 26 patients (33.33%) were between the age group of 31-40 years, 42 (53.83%) patients were male and 36 (46.15%) were females, 57 patients i.e., 73.07% were Hindu and 18 patients i.e., 23.07% were Muslims and 3 patients i.e.,

3.84% were Christians**.** Majority of the patients registered for the study were Servicemen i.e., 24 patient (30.76%), followed by students i.e., 18 patient (23.07%) and housewives 15 patient (19.23%). 45 patients (57.69%) were from urban area while 33 patients (42.30%) were from rural area. Maximum no. of patients were from middle class family i.e., 57.69% followed by upper class, i.e., 23.07% and lower class (19.23%). 53 patients i.e.,(67.94%) had onset or aggravation of disease in winter season. 71 patients i.e., 91.02% are not having any history of this disease in their families. Only 7 i.e., 8.97% patients had previous family history of the disease. The plaque type of Psoriasis which includes 48.71% patients was the commonest type of psoriasis found during the study followed by the palmo- plantar (37.17%)

EFFECT OF TREATMENT ON ITCHING, SCALING, ERYTHEMA, EPIDERMAL THICKENING

Assessing the improvement of Scaling, it was observed that before treatment the Mean was 2.12, SD was 0.79 which after 90 days, Mean came down to 1.16 and SD was 0.91. The standard error is 0.13, P-value less than <0.001. The z value was statistically highly significant with z = 7.38 (Table 1, Fig. 1)

Assessing the improvement of Itching, it was observed that before treatment the Mean was 1.62, SD was 1.007 which after 90 days, Mean came down to 0.57 and SD was 0.73. The standard error is 0.13, P-value less than <0.001.

Table 1 Effect of Treatment on Scaling (N=78)

Duration (90 Days)	MEAN	SD	SE	Z	P	Remark
BT	2.12	0.79	0.13	7.38	<0.001	HS
AT	1.16	0.91				

Z= 7.38, P<0.001, hence the result is highly significant. It shows the trial drug signifies in reducing scaling (Table no.1)

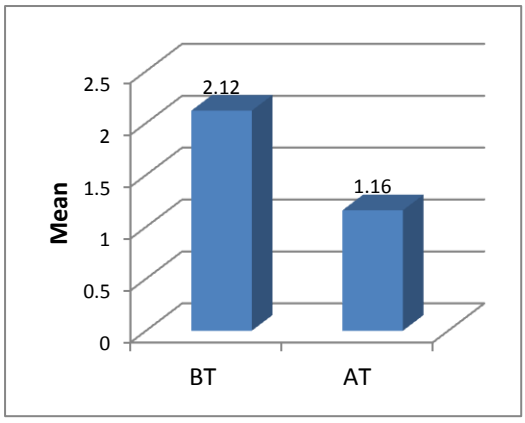

Fig 1 Effect of Treatment on Scaling (N=78)

The z value was statistically highly significant with z = 7.51. (Table 2, Fig. 2)

Assessing the improvement of Erythema, it was observed that before treatment the Mean was 1.33, SD was 1.06 which after 90 days Mean came down to 0.79 and SD was 0.81. The standard error is 0.14, P-value less than <0.001. The z value was statistically

highly significant with z = 3.85 (Table 3, Fig. 3)

Table 2 Effect of Treatment on Itching (N=78)

Duration (90 Days)	MEAN	SD	SE	Z	P	Remark
BT	1.62	1.007	0.137	7.51	<0.001	HS
AT	.57	0.730				

Z= 7.51, P<0.001, hence the result is highly significant. It shows the trial drug signifies in reducing itching (Table no.2)

Table 3 Effect of Treatment on Erythema (N=78)

Duration (90 Days)	MEAN	SD	SE	Z	P	Remark
BT	1.33	1.06	0.14	3.85	<0.001	HS
AT	0.79	0.81				

Z=3.85, P<0.001, hence the result is highly significant. It shows the trial drug signifies in reducing erythema (Table no. 3).

Table 4 Effect of Treatment on Epidermal Thickening **(N=78)**

Duration (90 Days)	Mean	SD	SE	Z	P	Remark
BT	1.3	0.82	0.14	2.57	<0.01	S
AT	0.94	1.005				

Z=2.57, P<0.01, hence the result is significant. It shows the trial drug signifies in reducing epidermal thickening (Table no. 4).

Assessing the improvement of Epidermal thickening, it was observed that before treatment the Mean was 1.3, SD was 0.82 which after 90 days, Mean came down to 0.94 and SD was 1.005. The standard error is 0.14, P-value less than <0.01.

The z value was statistically significant with z = 2.57 (Table 4, Fig. 4)

Assessing the improvement of PASI Scoring, it was observed that before treatment the Mean was 16.23, SD was 11.88 which after 90 days, Mean came down to 3.78 and SD was 8.35. The standard error is 1.64, P-value less than <0.001.

The z value was statistically significant with z = 7.59 (Table 6, Fig. 6)

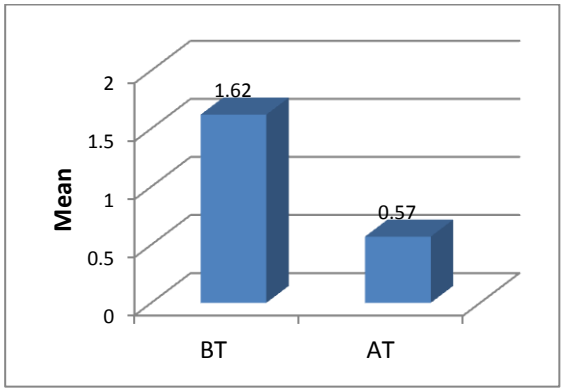

Fig 2 Effect of treatment on Itching (N=78)

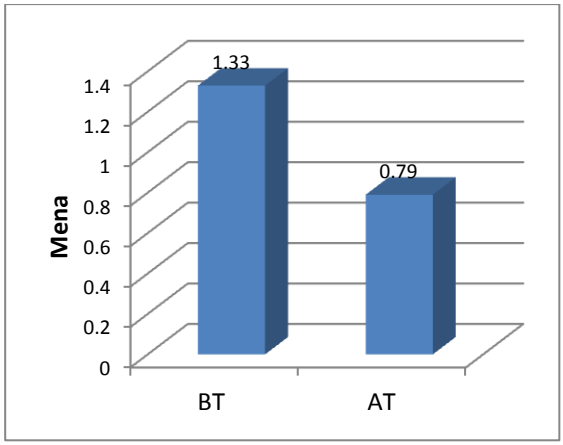

Fig 3 Effect of Treatment on Erythema (n=78)

Table 5 Effect of Treatment on Dryness, Auspitz Sign, Candle Grease Sign, Koebner's Phenomenon

	BEFORE TREATMENT	AFTER TREATMENT
DRYNESS	Present in 78 i.e. 100% of patients	0
AUSPITZ SIGN	Present in 54 i.e. 69.23% 0f patients	0
CANDLE GREASE SIGN	Present in 24 i.e. 30.76% of patients	0
KOEBNER'S PHENOMENON	Present in 14 i.e . 17.94% of patients	0

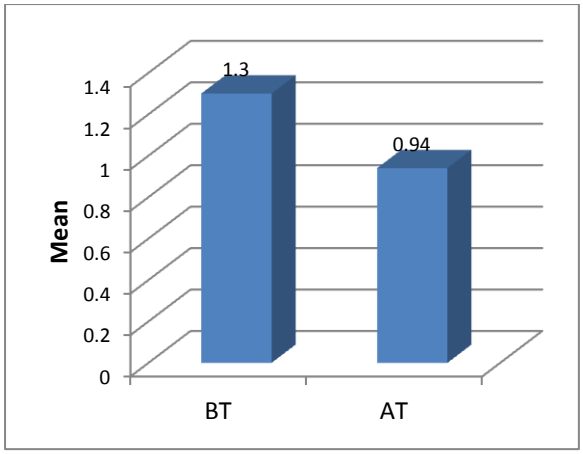

Fig 4 Effect of Treatment on Epidermal thickening (n=78)

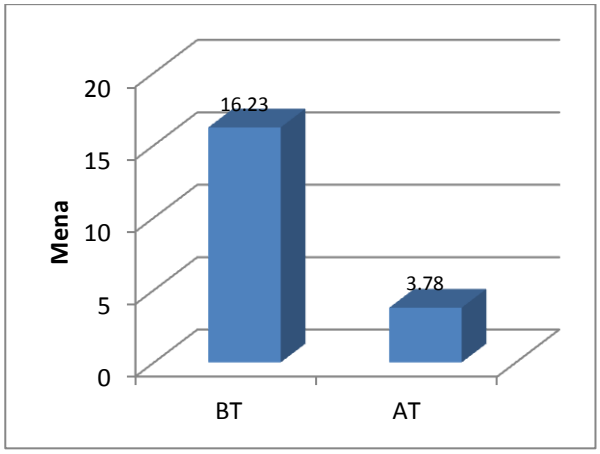

Fig 5 PASI scoring Table (n=78)

Table 6 Pasi Scoring table (N=78)

Duration (90 days)	MEAN	SD	SE	Z	P	Remark
BT	16.23	11.88				
AT	3.78	8.35	1.64	7.59	<0.001	HS

Z=7.59, P<0.001, hence the result is highly significant (Table no. 6).

CONCLUSION

Thus Neem and Haritaki Churna (orally), local application of Stri Kutaja taila along with the traditional method of therapy i.e. fomentation with Earthworm castings has an effective role in the treatment of Psoriasis. In other words, it can be said that the trial drug is not only effective in the treatment of Psoriasis but it is also simple and cost effective drug with no adverse effects on the skin. This confirms the sustained and excellent therapeutic efficacy of Neem & Haritaki churna (orally), Stri Kutaja taila (externally) and fomentation with Earthworm castings reatment in the management of psoriasis.

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