

A COMPARATIVE STUDY TO EVALUATE THE EFFICACY OF *JAPAPUSHPA TAILA* AND *KEECHAKA TAILA* AS EXTERNAL APPLICATION IN *DARUNAKA*

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ABSTRACT

Background: *Darunaka* is one among the *ShiroKapala Rogas* and it due to vitiated *Kapha* and *Vata Dosha*. *Kandu*, *Keshachyuti*, *Roukshya* and *Twaksphutana* are the cardinal symptom of *Darunaka*. This symptom resembles to *Pityriasis Capitis* and It affecting almost half of the population. *Shiroabhyanga*, *Nasya*, *Shirodhara*, *Shirobasthi* and *Siravyadha* are the line of treatment for *Darunaka* in the classics. The response to treatment is commonly swifts but transient. So there is a need to find a safe and effective remedy in the management of *Darunaka*, which initiated for the study. The combined effect of *Japapushpa Taila* and *Keechaka Taila* act as *Vata Kapha Shamana* leading to *Samprapthi Vighatana* of *Darunaka*. Considering these views present study was planned. **Objective:** To Compare the efficacy of *Japapushpa Taila* and *Keechaka Taila* as external application in *Darunaka*. **Methods:** Patients presenting with the classical features of *Darunaka* and between the age group of 16 years and 60 years irrespective of sex were selected and allotted in Group A and Group B with 20 patients in each. Group A was administered with *Japapushpa Taila ShiroAbhyanga* and Group B with *Keechaka Taila ShiroAbhyanga* 15 minutes per day for 30 days. **Results:** Administration of *Japapushpa Taila* provided cured in 5% patients, marked improvement in 20% patients, moderate improvement in 65% patients, 10% of patients got mild improvement. Administration of *Keechaka Taila* provided cured in 5% patients, marked improvement in 15% patients, moderate improvement in 55% patients and 20% of patients got mild improvement and 5% patients remains unchanged. **Conclusion:** on the basis of the results of this study it can be clearly concluded that *Japapushpa Taila ShiroAbhyanga* and *Keechaka Taila ShiroAbhyanga* provide significant relief in the symptoms of *Darunaka*.

Keywords: *Darunaka*, *Japapushpa Taila*, *Keechaka Taila*, *ShiroAbhyanga*, *Pityriasis Capitis*

INTRODUCTION

Shiras is one among the vital organs of the body, in which the *Prana* resides.¹ Thus, the diseases affecting

the *Shiras* negatively affects the quality of life. Hence it should be protected and treated as early as possible

in diseased condition. There are 19 diseases described by *Acharya Vagbhata* in *Shiroroga Pratishedha Adhyaya*, they are 10 *Shiroroga* and 9 *Kapala Roga* and *Darunaka* is one among them.² *Acharya Susruta* included *Darunaka* under *Kshudra Roga's*.³ It can occur due to Irregular daily regimen, Poor hygiene, Sleeping during day time, Night vigil, exposure to dust, Hot weather. *Kapha-Vata* vitiation in *Shirokapala* leads to *Darunaka* having symptoms such as *Kandu*, *Keshachyuti*, *Roukshya* and *Twaksphutana* most of its features correlate with the features of Pityriasis Capitis, also called as "Dandruff". Pityriasis Capitis is a common irritative disease of the scalp caused by yeast *Pityrosporum*, in which excessive shedding of dead tissue from the scalp with itching sensation is the cardinal feature. It affects almost half of the population at the pre-pubertal age, of any gender and ethnicity. The prevalence of dandruff across the world is up to 50% in the general population and in India it is 18.38%.⁴ Contemporary medicine offers a variety chemical based shampoos and lotions to counteract Dandruff but its limits are merely till control. So there is a need to find a safe and effective remedy in the treatment of *Darunaka*. *ShiroAbhyanga*, *Shirodhara*, *Shirobasti*, *Shirolepa*, *Nasya* and *Raktamokshna* is the line of treatment for *Darunaka* in the classics.⁵ *Japapushpa Taila* has described in *Yogaratanakara*⁶ in the treatment of *Darunaka* and *Keechaka Taila* has described in *Vangasena Samhitha*⁷ in the treatment of

Kapalagata Rogas. It is selected for the present research work in *Darunaka* with special reference to Pityriasis Capitis.

OBJECTIVE

1. To evaluate the efficacy of *Japapushpa Taila* as external application in *Darunaka*.
2. To evaluate the efficacy of *Keechaka Taila* as external application in *Darunaka*.
3. To compare the efficacy of *Japapushpa Taila* and *Keechaka Taila* as external application in *Darunaka*.

MATERIALS AND METHODS

Study design: Randomized Comparative Clinical Study

Source of data: Patients were randomly selected from the OPD and IPD of *Shalaky Tantra* department, Alva's Ayurveda Medical College & Hospital, Moodbidri, Medical camps and other referrals.

Sample size: 40

Sampling method:

The patients diagnosed as *Darunaka* were randomly divided into 2 groups.

Trial Drugs

1. *Japapushpa Taila*
2. *Keechaka Taila*

Drug source: The required drugs identified and collected from the local sources and *Taila* was prepared according to the classical references at *Rasasasthra & Baishajyakalpana* lab, Alva's Ayurveda Medical College.

PREPARATION OF MEDICINE

Table 1: Showing ingredients and quantity

	INGREDIENTS	QUANTITY
<i>Japapushpa Taila</i>	<i>Japapushpa (Kalka)</i>	125gm
	<i>Jala (Dravadravya)</i>	4L
	<i>Katu Taila (Snehadravya)</i>	1L
<i>Keechaka Taila</i>	<i>Keechaka (Kalka)</i>	250gm
	<i>Gomutra (Dravadravya)</i>	4L
	<i>Katu Taila (Snehadravya)</i>	1L

Method of preparation⁸

The medicine was prepared as per *Snehapakavidhi* in the *Rasasasthra & Baishajyakalpana* lab.

CRITERIA FOR SELECTION OF PATIENTS

Diagnostic criteria

Patients Presenting with *Lakshanas* of *Darunaka* like,

1. *Shirokandu* (Itching of scalp)
2. *Keshachyuti* (Diffuse hair falling)
3. *Shirorukshatha* (Roughness of scalp)
4. *Twaksphutana* (Scaling of Scalp skin)

Inclusion criteria

- Patients fulfilling the diagnostic criteria
- Patients between age group of 16-60 years irrespective of sex, religion and occupation were selected for the study

Exclusion criteria

- Patient with other scalp disorders like *Arumshika*, *Indralupta* and Scalp psoriasis.
- Allergic manifestation
- Other skin diseases.

Investigation: Blood Routine

Research Design:

40 Patients selected were randomly allotted in to 2 groups namely Group A, Group B with 20 patients in each group. Group A: The patients of this group were administered with *Japapushpa Taila ShiroAbhyanga* daily for 30 days duration. Group B. The patients of this group were administered with *Keechaka Taila ShiroAbhyanga* daily for 30 days duration.

Procedure of ShiroAbhyanga

ShiroAbhyanga is one among the *Bahiparimarjana Chikitsa* which is done in following methods. Patient is made to sit in comfortable position by using *Sukoshna Japapushpa Taila* and *Keechaka Taila ShiroAbhyanga* done respectively A and B Group for the duration of 15 minutes. It is carried out by using tip of the fingers gently massage over the scalp.

FOLLOW UP STUDY:

Patients were reviewed on 15th and 30th day after treatment.

CRITERIA FOR ASSESSMENT OF EFFECTS OF TREATMENT

Assessment of the results was made before and after the treatment based on,

Subjective Parameters

- a) *Kandu* (Itching of scalp)
- b) *Keshachyuti* (Diffuse hair falling)

Objective Parameters

- a) *Rukshatha* (Roughness of scalp)
- b) *Twaksphutana* (Scaling of scalp skin)

Responses to the treatment were evaluated by using a specially prepared grading scale for clinical features.

Overall effect of Therapy

Criteria for Assessment of Overall effects

Overall effect of the therapy was assessed in terms of complete cure, marked improvement, moderate improvement, mild improvement and unchanged is observed by adopting the following criteria.

Complete Cure: 100% relief in Chief complaints and no recurrence during follow up study were considered as complete cure.

Marked Improvement: 75-100% improvement in chief complaints is recorded as marked improvement.

Moderate Improvement: 50-75% improvement in chief complaints is recorded as moderate improvement

Mild Improvement: 25-50% improvement in chief complaints is considered as mild improvement.

Unchanged: Less than 25% reduction in chief complaints or recurrence of the symptoms to the similar extent of severity is noted as recurrence.

GENERAL OBSERVATIONS:

Age: The incidence of age in patients with *Darunaka* was more in 21-25 (52.5%) age group in the present study. **Sex:** The incidence of sex in patients with *Darunaka* was more in females (75%) in the present study. **Prakruti:** The incidence of *Prakruti* in patients with *Darunaka* was more in *Vata-Kapha Prakruti* (42.5%) patients. **Oil and Cosmetic use:** Among 40 patients of *Darunaka*, 13 (32.5%) were using Coconut oil. 16 (40%) patients were using Different types of oil. No one using Soap and 32 (80%) patients were using Shampoo and 2 (5%) patients were not using anything. **Nidana:** *Nidana* wise observation shows that, out of 40 patients, 31 (77.5%) had *Sheeta Ahara*, 12 (30%) patients with *Abhyanga Dvesha*, 22 (55%) with *Rajo Sevana*, 13 (32.5%) patients with *Shoka*, 5 (12.5%) patients with *Bhaya*, 11 (27.5%) patients with *Krodha*.

RESULT

Statistical analysis of the result

The results having ‘P’ value less than < 0.005 is considered as statistically significant.

Table 2: Showing results in reduction of *Kandu* during, after treatment and during follow up in Group A and Group B

Symptoms	Mean Score				%	SD	SE	T value	P value
	BT	AT	Mean AT	BT-AT					
Group A	1.800	DT1	1.150	0.650	36.11	0.745	0.167	3.901	≤ 0.001
		DT2	0.250	1.550	86.11	0.945	0.211	7.339	≤ 0.001
		FU1	0.350	1.450	80.55	0.887	0.198	7.310	≤ 0.001
		FU2	0.600	1.200	66.66	1.281	0.287	4.188	≤ 0.001
Group B	2.200	DT1	1.600	0.600	27.27	0.754	0.169	3.559	$= 0.002$
		DT2	0.700	1.500	68.18	0.946	0.212	7.092	≤ 0.001
		FU1	0.700	1.500	68.18	0.946	0.212	7.092	≤ 0.001
		FU2	1.050	1.150	52.27	0.933	0.209	5.510	≤ 0.001

Table 3: Showing results in reduction of *Keshachyuti* during, after treatment and during follow up in Group A and Group B

Symptoms	Mean Score				%	SD	SE	T value	P value
	BT	AT	Mean AT	BT-AT					
Group A	2.550	DT1	1.600	0.950	37.25	0.686	0.153	6.190	≤ 0.001
		DT2	0.450	2.100	82.35	0.852	0.191	11.020	≤ 0.001
		FU1	0.700	1.850	72.54	0.745	0.167	11.103	≤ 0.001
		FU2	1.100	1.450	56.86	0.887	0.198	7.310	≤ 0.001
Group B	2.800	DT1	2.050	0.750	26.78	0.550	0.123	6.097	≤ 0.001
		DT2	0.950	1.850	66.07	0.671	0.150	12.333	≤ 0.001
		FU1	1.250	1.550	55.35	0.605	0.135	11.461	≤ 0.001
		FU1	1.800	1.000	35.71	0.858	0.192	5.210	≤ 0.001

Table 4: Showing results in reduction of in *Rukshatha* during, after treatment and during follow up in Group A and Group B

Symptoms	Mean Score				%	SD	SE	T value	P value
	BT	AT	Mean AT	BT-AT					
Group A	1.300	DT1	0.950	0.350	26.92	0.587	0.131	2.666	$= 0.015$
		DT2	0.200	1.100	84.61	0.968	0.216	5.082	≤ 0.001
		FU1	0.400	0.900	69.23	0.852	0.191	4.723	≤ 0.001
		FU2	0.800	0.500	38.46	0.946	0.212	2.364	$= 0.029$
Group B	1.450	DT1	1.150	0.300	20.68	0.470	0.105	2.854	$= 0.010$
		DT2	0.350	1.100	75.86	0.852	0.191	5.772	≤ 0.001
		FU1	0.500	0.950	65.51	0.999	0.223	4.254	≤ 0.001
		FU2	1.050	0.400	27.58	0.754	0.169	2.373	$= 0.028$

Table 5: Showing results in reduction of in *Twaksphutana* during, after treatment and during follow up in Group A and Group B

Symptoms	Mean Score				%	SD	SE	T value	P value
	BT	AT	Mean AT	BT-AT					
Group A	2.600	DT1	1.750	0.850	32.69	0.587	0.131	6.474	=<0.001
		DT2	0.400	2.200	84.61	0.616	0.138	15.983	=<0.001
		FU1	0.650	1.950	75	0.887	0.198	9.831	=<0.001
		FU2	0.950	1.650	63	0.933	0.209	7.906	<0.001
Group B	2.650	DT1	1.950	0.700	26.41	0.733	0.164	4.273	=<0.001
		DT2	0.750	1.900	71.69	0.788	0.176	10.782	=<0.001
		FU1	1.100	1.550	58.49	0.759	0.170	9.131	=<0.001
		FU2	1.400	1.250	47.16	0.910	0.204	6.140	=<0.001

Table 6: Showing comparative effect of treatment between two groups

Symptoms	BT-AT Means		Mean difference	Standard deviation		Standard error		t value	P value
	Group A	Group B		Group A	Group B	Group A	Group B		
<i>Kandu</i>	1.550	1.500	0.050	0.945	0.946	0.211	0.212	0.167	=0.868
<i>Keshachyuti</i>	2.100	1.850	0.250	0.852	0.671	0.191	0.150	1.031	=0.309
<i>Rukshatha</i>	1.100	1.100	0.000	0.968	0.852	0.216	0.191	0.000	=1.000
<i>Twaksphutana</i>	2.200	1.900	0.300	0.616	0.788	0.138	0.176	1.342	=0.188

OVER ALL EFFECT OF THE THERAPY.

Table 7: Showing over all percentage of improvement / relief in the patients of Group A and Group B.

Effect Of Therapy	Group A	Group B
Cured	1(5%)	1(5%)
Markedly Improved	4(20%)	3(15%)
Moderately Improved	13(65%)	11(55%)
Mild Improved	2(10%)	4(20%)
No change	0%	1(5%)

DISCUSSION

Darunaka is generally correlated to Dandruff or Pytiriasis Capitis, It resembles more accurately with the signs and symptoms of dry variety of Pytiriasis Capitis. Few of the significantly resembling factors *Kandu* (mild itching), *Rukshatha* (Hair are dry and fine), *Twaksphutana* (Scales are dry, fine, white and fall freely on shoulders). But hair fall has not been directly mentioned in the modern classics; Even then we can consider *Keshachyuti* as a reason of *Rukshatha* of hairs.

Discussion on observations

Age: The condition was more frequent in the age group, 21-25 years of age group. The exact cause is unknown, but the probable reason may be that, it is the

age where a person is forced to indulge in the above said causative factors. The other reason may be that during this age, individuals are more conscious about their looks and hair and hence the use of different hair care products will be more which can also cause Dandruff. Also hormonal disturbances, emotional ups and downs, mental stress can also cause Dandruff. Sex: Here *Darunaka* was more in females may be because of difficulty in maintaining hygiene of long hair and hormonal variation. *Prakruti*: *Vata* and *Kapha* are the predominant *Dosha* in the *Darunaka*. Oil and Cosmetics: Presently available oils and shampoo are not giving satisfactory result in *Darunaka*.

Nidana: Most of the *Nidana* described in the classics were observed in patients with *Darunaka*. This infers

the role of *Aharaja*, *Viharaja* and *Manasika* factors in the manifestation of *Darunaka*.

Discussion on result

Effect on *Kandu*

The result of *Kandu* in both groups show statistically significant result individually, which indicates both the Group A and Group B are effective. The comparative study proved to have no significant difference in *Kandu* in the effect of treatment in both the groups. *Kandu* is one of the symptoms in *Darunaka*. This is due to the factors like accumulation of Mala on the scalp. Both these *Tailas* have *Vata-Kapha Shamaka*, *Kandughna*, *Kushtanghna* effect and it helps to reduce *Kandu*.

Effect on *Keshachyuti*

The result of *Keshachyuti* in both groups show statistically significant result individually, which indicates both the Group A and Group B are effective. The comparative study proved to have no significant difference in *Keshachyuti* in the effect of treatment in both the groups. *Keshachyuti* is another symptom of *Darunaka*. The hairfall in *Darunaka* may be due to lack of *Snigdhatata* caused by vitiated *vata*. *Ushna Virya* of the *Taila* helps to reduce *Vata Dosha*, which reduces hair fall. *Japapushpa Taila* is more effective in *Keshachyuti* because of *Keshya* action of *Japapushpa*.

Effect on *Rukshatha*

The result of *Rukshatha* in both groups show statistically significant result individually, which indicates both the Group A and Group B are effective. The comparative study proved to have no significant difference in *Rukshatha* in the effect of treatment in both the groups. *Rukshatha* in *Darunaka* is due to *Abhyanga Dvesha* and other *Vata* vitiating *Nidanas* which causes roughness of scalp. *Rukshatha* is pacified by *Snigdha Guna* of the oil.

Effect on *Twaksphutana*

The result of *Twaksphutana* in both groups showing statistically significant result individually, which indicates both the Group A and Group B are effective. The comparative study proved to be no significant difference in *Twaksphutana* in the effect of treatment in both the groups. *Twaksphutana* in *Darunaka* is due to vitiated *Vata Dosha*. *Ushna Virya* of the drugs plays a

role in pacifying vitiated *Vata Dosha*. *Prabhava* of *Tikta Rasa* provides stability to *Twak* and tissue, which may help in reducing *Twaksphutana* in *Darunaka*.

Discussion on Overall Effects of the Treatment

Consideration of overall effect of treatment after one month of treatment showed that in *Japapushpa* group complete improvement was found in 1(5%) patient, marked improvement was found in 4 (20%) patients, moderate improvement was found in 13 (65%) patients and mild improvement 2 (10%). In patients of *Keechaka* group 1 (5%) patient got complete relief, marked improvement was found in 3 (15%) patients and moderate improvement was found in 11 (55%) patients. Mild relief from the *Darunaka* is noticed in 4 (20%) and 1 (5%) of the patient found no relief. When comparison between the groups is done, both the group did not show much difference. The mild difference in the percentage may be due to person to person difference.

Follow up

In follow up period mild recurrence were noticed in both groups. The recurrence might have occurred due to indulgence in *Nidana* again and not following the advice.

CONCLUSION

The etiology and the clinical features are nearly similar in *Darunaka* and Pityriasis Capitis. It was noticed that in the present study *Darunaka* was more prevalent in those who indulge in different food habits, those who are prone for some emotional factors and in different climate

Japapushpa Taila and *Keechaka Taila ShiroAbhyanga* has significant effect in pacifying the symptoms of *Darunaka* and reduction in clinical symptoms was well valued within one month duration, As per the preparation of both *Taila*, ingredients are easily available and also easy to prepare. Hence both *Taila* can be used in daily practice.

There was no topical and systemic adverse drug effects noted at the end of the study. And this preparation is definitely have the potential effect to treat *Darunaka*

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