



## Research Article

www.ijrap.net

(ISSN Online:2229-3566, ISSN Print:2277-4343)



### A CLINICO COMPARATIVE STUDY ON MALATYADI TAILA AND BHRINGARAJA TAILA AS EXTERNAL APPLICATION IN THE MANAGEMENT OF DARUNAKA WITH SPECIAL REFERENCE TO SEBORRHEIC DERMATITIS

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Received on: 11/8/25 Accepted on: 12/10/25

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DOI: 10.7897/2277-4343.165167

#### ABSTRACT

Darunaka is the most common condition of scalp, which affects the people irrespective of age and sex. Although it doesn't affect the routine of the people but affect the psychological state of the young generation due to its intolerable complaints like itchy scalp, irritation, flakiness, redness. Seborrheic dermatitis is a form of disease characterized by red scaly rash, flakiness, itching, and irritation of scalp sometimes including face, nasolabial folds, eyebrows and chest. In this study 30 patients fulfilling inclusion criteria were randomly selected and divided into 2 groups each comprising 15 patients. Group A is given Malatyadi taila and Group B is given Bhringaraja taila for shiro abhyanga [head massage or oil application to head] for 21 days. Clinical signs and symptoms were given with suitable scores according to the severity in symptoms assessed based on relief after treatment. After 1 month of follow up both the drugs have significant effect in Darunaka but comparatively Malatyadi taila has better relief than Bhringaraja taila.

**Keywords:** Darunaka, Seborrheic dermatitis, Shiro abhyanga, Malatyadi taila, Bhringaraja taila

#### INTRODUCTION

Darunaka is not a deadly disease but affecting the psychological state of most of the young people due to irritation, itching and scaly scalp. Almost all the acharyas including Sushruta have mentioned Darunaka in kshudra rogas<sup>1</sup> due to affliction of vata and kapha. But Acharya Vaghbhata<sup>2</sup> and Acharya Sharangadhara<sup>3</sup> mentioned it under Kapala gata rogas [diseases of scalp]. The causes of Darunaka are mainly being unhygienic condition, pollution, dust, no oiling and even in Ayurveda explain the nidana for darunaka as same as abhyanga dwesha [non oiling] and Ashuchi<sup>1</sup> [no cleanliness]. Dandruff is considered as physiological state where in there will be shedding of dead skin cells from scalp which is considered as normal. But unusually large amount of flaking either chronically or as a result of certain triggers is considered as abnormal. And one such condition of scalp is seborrheic dermatitis. Seborrheic dermatitis is characterised by red scaly rash, flakiness, itching and irritation of scalp. It sometimes may include face, nasolabial folds, eyebrows and chest<sup>4</sup>. Scratching the itchy rash associated with dermatitis can cause open sores which may become infected, these skin infections may spread and may very rarely become life threatening.

Many of the medications has been explained in parallel sciences but they are not of much effective and recurrence rate is maximum. Overuse of topical steroids may lead to undesirable skin changes. Hence to solve this social and self-esteem problem there is a need of safe and effective therapy. In Ayurveda all the Acharyas have mentioned many treatment modalities like dhuma

(fumigation therapy), shiro abhyanga (head massage using oil), dhara (pouring of medicine over forehead), shirobasti, lepa (external application over scalp), nasya<sup>5</sup> (nasal medication). Among these Shiro abhyanga being an easy and cost-effective treatment modality which is even proven effective not only in Darunaka but also in other shiro rogas.

There is a clear reference of Malatyadi Taila with indication in Chakradatta<sup>6</sup> and Bhaishajya ratnavali<sup>7</sup> and about Bhringaraja taila shiro abhyanga in Yogaratnakara<sup>8</sup> and Sharangadhara Samhita<sup>9</sup>. The drugs of the yoga are easily available, economical and cost effective with easy procedure.

Hence, a clinical research work is proposed- "A Clinico Comparative Study of Malatyadi Taila and Bhringaraja Taila as External application in the management of Darunaka with special reference to Seborrheic Dermatitis".

**Aims and objectives:** To compare the efficacy of shiroabhyanga with Malatyadi taila and Bhringaraja taila.

#### MATERIALS AND METHODS

**Study design:** It is a randomized, open labelled, comparative clinical study.

**Source of data and sample:** Patients fulfilling the inclusion criteria are selected from patients attending OPD of Shalakya tantra department of Shri JGCHS Ayurvedic Medical College, Ghataprabha. And distributed randomly in group A and Group B.

The study is carried out as per ICMR Guidelines as it involves human participants and Ethical clearance has been also obtained from the institute with reference No.- 2015/03/15/01.

**Sample size:** Total 30 patients distributed 15 patients in each group.

**Study setting:** This study was carried at Shri JGCHS Ayurvedic Medical College, Ghataprabha. From the year 2013-2016.

**Table 1: Malatyadi taila**

Ingredients	Quantity
Malati	1 part
Karaveera twak	1 part
Karanja beeja	1 part
Chitraka mula	1 part
Tila taila	4 parts

#### Inclusion criteria

- Patient under the age group between 18-40 years
- Patients with either sex, irrespective of religion and socioeconomic status
- Patients diagnosed with seborrheic dermatitis

#### Exclusion criteria

- Psoriatic and any other skin disorders
- Any other systemic disorders
- Any other immunosuppressive disorders and any kind of malnutrition

**Investigations:** No specific investigations are carried out.

#### Research Design

**Group A:** Group of 15 patients is advised for external application or shiro abhyanga of Malatyadi taila on scalp once in a day for 21 days

**Group B:** Group of 15 patients is advised for external application or shiro abhyanga of Bhringaraja taila on scalp once in a day for 21 days

Both groups are followed at regular intervals, every 7th day till 1 month.

**Assessment criteria:** Assessment is done based on subjective and objective criteria.

**Subjective criteria-** Rukshata = Dryness, Kandu= Itching

**Objective criteria-** Raga= Redness on scalp, Twak sputhana= Flakiness on scalp, Photography

#### Gradation index

**Table 3: Rukshata**

Absent	0
Negligible	1
Without discomfort on scalp	2
With discomfort on scalp	3

**Table 4: Kandu**

Absent	0
Occasionally	1
Frequently	2
Constant	3

**Trail drugs:** Group A - Malatyadi taila, Group B - Bhringaraja taila

#### Collection of drugs

Malatyadi taila: The raw drugs are taken from the pharmacy and authentication taken from Dravya guna department of Shri JGCHS Ayurveda Medical College, Ghataprabha. And the preparation of Malatyadi taila is done in Rasashastra and Bhaishajya Kalpana Department at Shri JGCHS Ayurveda Medical College, Ghataprabha as per classical reference.

Bhringaraja taila: It is taken from the GMP Certified company.

**Table 2: Bhringaraja Taila**

Ingredients	Quantity
Bhringaraja rasa	1 part
Lohakitta	1 part
Phalatrika	1 part
Sariva	1 part
Tilataila	4 Parts

**Table 5: Raga**

Absent	0
Negligible	1
Without discomfort on scalp	2
With discomfort on scalp	3

**Table 6: Twak sputhana**

Absent	0
Visible inside the hair	1
Visible over the hair	2
Spread over the shoulder	3

**Severity of Darunaka:** For assessing the severity of Darunaka in each patient the above adopted scores were grouped and assessed as follows.

**Table 7: Overall effect of the therapy**

Absent	0	0
Mild	1	1-4 score
Moderate	2	5-8 score
Severe	3	More than 8 score

#### Statistical analysis of results

The results having P value < 0.05 is considered as statistically significant in this study.

#### Criteria for assessment of overall effect

Overall effect of the therapy was assessed in terms of complete remission, marked improvement, moderate improvement, Mild improvement and Unchanged is observed by adopting the following criteria.

Complete remission- 100% relief in chief complaints and no recurrence during follow up study

Marked improvement- 75%-100% relief is considered as marked improvement.

Moderate improvement- 50%-75% relief is considered as Moderate improvement.

Mild improvement- 25%-50% relief is considered as Mild improvement.

Unchanged- Less than 25% reduction or recurrence of symptoms to the similar extent of severity.

## OBSERVATIONS

### General observations

Total 30 patients were registered for the study; they were randomly divided in to 2 groups. Group A is given with Malatyadi taila shiro abhyanga and Group B was given with Bhringaraja taila shiro abhyanga for the purpose of comparative assessment of treatment. Age wise distribution of patients showed that 4(13%) patients belonged to the age group of 10-20years, 17(57%) patients belonged to the age group between 20-30 years, and 9(30%) patients belonged to the age group 30-40 years. Sex

wise distribution showed 16(53%) patients were male and 14(47%) patients were female. Out of 30, 6(20%) patients were from urban area and 24(80%) patients belonged to rural area. 7(23%) patients were pure vegetarian and 23(77%) are having mixed diet. Severity of patient showed 13(43%) patients belonged to severe group 16(54%) patients are moderately affected and 1(3%) patient with mild affected. And use of cosmetics for washing head revealed out of 30 patients 2(6%) patients used soap, 18(60%) patients used shampoo and 10(34%) patients used soaps and oil application revealed 18(60%) patients used coconut oil and 12(40%) patients used herbal hair oils.

**Table 8: t test results in reduction of kandu in group A and group B before and after treatment**

Kandu	Mean			SD		SE		df	t	P
	BT	AT	Redn	BT	AT	BT	AT			
Group A	2.13	0.2	1.93	0.71	0.40	0.18	0.10	14	13.42	0.001
Group B	1.86	0.2	1.66	0.80	0.40	0.20	0.10	14	10.73	0.001

SD- Standard deviation, SE- Standard error, df- Differentiation, BT- Before treatment, AT- After treatment, Redn- Reduction

**Table 9: t test results in reduction of Rukshata in group A and group B before and after treatment**

Rukshata	Mean			SD		SE		df	t	P
	BT	AT	Redn	BT	AT	BT	AT			
Group A	2.2	0.13	2.07	0.65	0.33	0.17	0.08	14	11.82	0.001
Group B	2.13	0.2	1.93	0.57	0.40	0.14	0.10	14	11.05	0.001

SD- Standard deviation, SE- Standard error, df- Differentiation, BT- Before treatment, AT- After treatment, Redn- Reduction

**Table 10: t test results in reduction of twak sputana in group A and group B before and after treatment**

Twak sputana	Mean			SD		SE		df	t	P
	BT	AT	Redn	BT	AT	BT	AT			
Group A	2.06	0.13	1.93	0.67	0.33	0.17	0.08	14	12.53	0.001
Group B	2.2	0.13	2.07	0.83	0.33	0.21	0.08	14	9.13	0.001

SD- Standard deviation, SE- Standard error, df- Differentiation, BT- Before treatment, AT- After treatment, Redn- Reduction

**Table 11: t test results in reduction of raga in group A and group B before and after treatment**

Raga	Mean			SD		SE		df	t	P
	BT	AT	Redn	BT	AT	BT	AT			
Group A	1.86	0.13	1.73	0.61	0.33	0.16	0.08	14	9.8	0.001
Group B	1.8	0.13	1.67	0.54	0.33	0.13	0.08	14	10.73	0.001

SD- Standard deviation, SE- Standard error, df- Differentiation, BT- Before treatment, AT- After treatment, Redn- Reduction

**Table 12: Overall effect of the therapy**

Score after Rx	Group A		Group B	
	Patients	%	Patients	%
Complete cure	09	60%	07	47%
Moderate cure	06	40%	08	53%
Not cured	00	-	00	-

## DISCUSSION

Darunaka is a disease of scalp due to vata and kapha vitiation. The exact aetiology not being known. Darunaka is not a deadly disease but its intolerable symptoms like itchy scalp, irritation, flakiness, redness produces disturbed psychological state in patient and has a high cosmetic importance, as we have correlated it with seborrheic dermatitis which not only affects the scalp but also the oily areas of skin such as face, upper chest and back in later stages. Many researchers have undertaken to manage the condition in other medicines but there is no specific cure as such. Only a temporary relief can be achieved by few antidandruff shampoos and lotions.

### Mode of action of Drugs

**Malatyadi taila:** All the ingredients present in Malatyadi taila are mostly having Kashaya, tikta rasa, Ushna veerya, Katu vipaka, and Laghu, mridu gunas, which are helpful in reducing increased vata and kapha. And also, they possess properties like

Kandughna, Twachya, Kustaghna which are helpful in reducing the symptoms of Darunaka.

**Bhringaraja taila:** Few ingredients in Bhringaraja taila are Katu, tikta rasa, Ushna veerya and Katu vipaka, and few ingredients are Madhura, Kashaya rasa, ushna veerya and Madhura vipaka. Hence the formulation acts as tridosahara. And drugs possess properties like Kandughna, Twachya, Keshya, Kustaghna are helpful in pacifying the disease Darunaka.

### Procedure Shiro abhyanga

The main therapy in the study being shiro abhyanga i.e. soft, gentle massage of scalp by patients own finger tips for 4-5 min once in a day. Reason behind this is as in 400 matrakala oil reaches skin which will be helpful for better absorption of the drug. Darunaka is a disease with vata kapha vitiation at Kapala pradesha which can be considered as srotosanga [improper circulation] leading to disease manifestation. So, the soft and gentle massage improves blood circulation in Kapala pradesha

and better absorption of taila pacifying dryness hence reducing shredding. The antimicrobial properties of tailas takes care of disinfection. Temperature produced by the massage provides comfort and the heat generated dilates the blood vessels which increases blood circulation and promotes absorption of medicine, healing of scalp tissues

### Effect of therapy on symptoms

**Effects on kandu:** In group A, before and after treatment showed changes from 2.13 to 0.2 showing reduction of 1.93, which is statistically significant at the level of  $P<0.001$ . and in group B, before and after treatment showed changes from 1.86 to 0.2 showing reduction of 1.66, which is statistically significant at the level of  $P<0.001$ . Hence both the formulations are effective in kandu but the mean reduction of group A is higher than group B, hence Malatyadi taila is more effective in relieving kandu.

**Effects on rukshata:** In group A, before and after treatment showed changes from 2.2 to 0.13 showing reduction of 2.07, which is statistically significant at the level of  $P<0.001$  while in group B, before and after treatment showed changes from 2.13 to 0.2 showing reduction of 1.93, which is statistically significant at the level of  $P<0.001$ . Hence both the formulations are effective in rukshata but the mean reduction of group A is higher than group B, hence Malatyadi taila is more effective in relieving dryness.

**Effects on twak sputhana:** In group A, before and after treatment showed changes from 2.06 to 0.13 showing reduction of 1.93, which is statistically significant at the level of  $P<0.001$  while in group B, before and after treatment showed changes from 2.2 to 0.13 showing reduction of 2.07, which is statistically significant at the level of  $P<0.001$ . Hence both the formulations are effective in twak sputhana but the mean reduction of group B is higher than group A, hence Bhringaraja taila is more effective in relieving flakiness.

**Effect on raga:** In group A, before and after treatment showed changes from 1.86 to 0.13 showing reduction of 1.73, which is statistically significant at the level of  $P<0.001$  while in group B, before and after treatment showed changes from 1.8 to 0.2 showing reduction of 0.13, which is statistically significant at the level of  $P<0.001$ . Hence both the formulations are effective in raga but the mean reduction of group A is higher than group B, hence Malatyadi taila is more effective in relieving redness.

**Overall effect of the therapy:** By observing all the data and comparing the groups the mean reduction in 3 of the symptoms of group A is higher than group B. and mean reduction of only 1 symptom is higher in group B. Hence, we can take that even though both the trails are highly significant in the disease Darunaka but Malatyadi taila has better results than Bhringaraja taila.

### CONCLUSION

Snehana in any form to the body is nourishing and one of the prime treatment all doshaja vikaras. Darunaka is a disease explained in kapalagata rogas can be co related to seborrheic dermatitis. Many treatment modalities have been mentioned in samhitas for Darunaka one among them is shiro abhyanga. In the present study application of oil to the diseased scalp, a form of snehana (oleation) in vata-Kaphaja vikara is not only proved

highly effective but also easy, cost effective and OPD based treatment which is widely accepted.

Considering overall effect of the therapy after 21 days showed that symptoms of both the groups are markedly reduced and patients got complete to moderate relief from Darunaka. Overall effect of the therapy showed that both Malatyadi and Bhringaraja taila are highly effective in relieving the symptoms of darunaka, but by observing the statistical data the mean reduction in the 3 symptoms [kandu, rukshata and raga] is higher in group A than group B. Only in a symptom of twak sputhana the mean reduction of group B is higher than group A. Hence, we can consider that among 2 groups Malatyadi taila has greater significance than Bhringaraja taila. There were no topical and systemic side effects observed during and after the end of the study. As the ingredients from Malatyadi taila are only 4 and easily available and easy to prepare it can be used in daily practice. And also, even Bhringaraja taila being most popular and available by almost all the pharmacy is almost equally effective as Malatyadi taila and cost effective too.

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### Cite this article as:

Sharada Madiwalar, Veerayya R Hiremath and S Gopal. A clinico comparative study on Malatyadi taila and Bhringaraja taila as external application in the management of Darunaka with special reference to Seborrheic Dermatitis. Int. J. Res. Ayurveda Pharm. 2025;16(5):46-49 DOI: <http://dx.doi.org/10.7897/2277-4343.16516>

Source of support: Nil, Conflict of interest: None Declared

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