



## A COMPARATIVE STUDY OF TILADI TAILAM AND TRIPHALADI TAILAM SHIROABHYANGA IN KHALITYA CAUSED BY EXOGENOUS TRICHOLOGICAL CHEMICAL TOXINS

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**ABSTRACT** In modern era due to unhealthy diet, over exposure to pollution and hard water causes hair fall i.e. “*Khalitya*”. Different types of chemical containing oils and shampoos, hair growth promoting pharmaceutical propaganda make the condition worse. *Shiroabhyanga* is indicated in *Shiiroroga* like *Khalitya*. *Tiladi Tailam* has good *Keshasthapana* property and *Triphaladi Tailam* is effective in both *Khalitya*, *Palitya*.

Total 230 patients were screened at OPD level. Out of which 70 patients fulfilling inclusion criteria were randomly allotted into 2 groups i.e. *TLT* group and *TRT* group by lottery method.

Both groups were advised *Shiroabhyanga* with their respective oil, along with administration of 1 gm of *Rasayan Churna Vati* in *Vyanodana kala* with *Godugdha*.

Results were assessed using 3 subjective parameters like *Kesh Raukshya*, *Kesha Kharatva*, Thinning of hair and Objective parameters like 60seconds Hair Comb Test, Trichoscopic analysis along with porosity.

**CONCLUSION**- Both *Tiladi Tailam* & *Triphaladi Tailam* have been found effective in *Khalitya*.

**KEYWORDS :** *Khalitya*, Exogenous Trichological Chemical Toxins, *Tiladi Tailam*, *Triphaladi Tailam*

### INTRODUCTION

The concept of beauty is gaining more and more attention globally and hair is said to be a barometer to measure it. Healthy lustrous looks add a great aesthetic value to the persona, boosting confidence. Hair not only beautifies but also protects the scalp and head from all extrinsic factors that may potentiate health issues.

*Ayurved* considers “*Kesha*” as a *Mala* of the *Asthi Dhatu* and states variation in its quality, color, thickness on the basis of *Prakriti*. Both contemporary and ancient science quote several diseases of the hair and scalp viz. *Palitya*, *Indralupta*, *Darunaka*, *Arunshika* etc.

*Khalitya* (Alopecia) enumerated as a *Kshudra roga*, the most common amongst them and is known to occur due to the vitiation of the *Tridosha*. The vitiated *Vata* and *Pitta* take *Ashraya* in the *Romakupa* thereby vitiating *Kapha* and *Rakta* thus causing *Avarodha* of the *Romakupa* leading to *Khalitya*.<sup>(1)</sup>

The etiopathogenesis of *Khalitya* by both *Vagbhat* and *Charak* is on similar lines where *Pitta* and *Vata* vitiation causes the *Dagdha* of *Keshbhoomi* thus resulting in hair fall.<sup>(2,3)</sup>

Currently, the prime etiological factor can be pinpointed as over-exposure to exogenous toxic chemicals such as various hair cosmetics viz. shampoos, conditioners, styling gels, sprays, and straightening creams etc.

Hard water is primarily alkaline in nature containing salts like  $\text{CaCO}_3$ ,  $\text{MgSO}_4$ , etc. which deprive hair of its keratin sheath as also its cuticle. These minerals in hard water are positively charged while hairs are negatively charged thereby attracting further harm.<sup>(4)</sup>

Similarly, the contents of hair cosmetics e.g. Peroxide, lead, ammonia etc can weaken and damage hair, get deposited in the cortex and cause redness, signs of local scalp irritation and hair fall. In spite of being aware of the probable hazards of such chemicals, abstinence from the etiological factor is almost impossible. Care hence needs to be taken to not only cure but prevent the ill effect too.

*Ayurvedic* herbal hair oils have been cited in the ancient treatise for *Shiroabhyanga* which is beneficial as part of *Dinacharya* to sustain hair strength and texture too.<sup>(5,6)</sup>

*Sahasrayogam* enlists *Tiladi Tailam* (*TLT*) comprising *Krishna Tila*, *Yasthimadhu* and *Maahish Dugdha* in a base of *Tila Taila* as *Uttam*

*Keshasthapan Dravya*.<sup>(7)</sup>

*Triphaladi Tailam* (*TRT*) contains 32 ingredients such as *Triphala*, *Guduchi*, *Bhringaraj*, *Jatamansi*, *Ashwagandha*, *Neeli* etc. Many of the drugs are *Keshya*, *Tridoshashamaka*, *Pittashamaka* and *Snigdha gunatmaka* in a base of *Tila Taila*. It has been specifically said to be effective in *Khalitya* and *Keshabhanjan* (breakage of hair).<sup>(8)</sup>

Since all *Keshavikara* are *Pitta Pradhan Vyadhi* and arise due to vitiation of *Rasa* and *Rakta*, *Pittashamak* and *Rasayan Dravya* as *Abhyantar Chikitsa* can render better results. *Vagbhatacharya* stresses on *Rasayan Prayoga* in *Khalitya*<sup>(9)</sup> and quotes *Gokshuradi* (*Rasayan Churna*) containing *Gokshura*, *Amalaki* and *Guduchi* for the same.<sup>(10)</sup>

### MATERIALS AND METHOD:

A total 60 patients of *Khalitya* caused by exogenous trichological chemical toxins were included in the study. They were randomly allotted to either the Trial group TLT or Trial group TRT by Simple Random Sampling. Follow up was taken periodically on Day 7-14-28 and 42. The parameters of assessment were assessed using 3 subjective parameters like *Kesha Raukshya*, *KeshaKharatva*, Thinning of hair and Objective parameters like 60seconds Hair Comb Test, Trichoscopic analysis along with porosity test.

### INCLUSION CRITERIA:

- With excessive exposure of **hair** to **exogenous** trichological chemical toxins. E.g. Patients using hard water, hair dyes, colours, styling gels, foams, shampoos, conditioners, straightening /perming product etc.
- Patients diagnosed with *Khalitya* in accordance with the criteria of assessment.
- Patient irrespective of age and gender.

### EXCLUSION CRITERIA:

- Patients diagnosed with *Khalitya* but not having exposures to exogenous trichological chemical toxins as the etiological factor.
- Other scalp disease like *Darunaka*, *Palitya*, *Arunshika*, *Indralupta* etc.
- Any other local therapy for hair grooming.
- Thyroid Dysfunction –Hypo/Hyper Thyroidism
- Anemia
- PCOD resulting in *Khalitya*.
- MPHL (Male pattern hair loss) FPHL (Female pattern hair loss).
- Chemotherapy or radiation therapy resulting in *Khalitya*

### CRITERIA OF ASSESSMENT:

The following criteria are in accordance with the symptoms of

*Khalitya* quoted in *Brihatrayi*.

**A. SUBJECTIVE PARAMETERS:**

1. *Kesh Raukshya* (Dryness of hair)
2. *Kesh Kharatva* (Roughness of hair)
3. Thinning of hair

**Table No 1 Gradation Scales of Subjective Parameters**

No.	Symptoms	Grade
1	<i>Kesh Raukshya</i> (Dryness of hair)	1. Normal hair
		2. Dryness seen by Day 4 after hair wash
		3. Dryness seen by Day 2 after hair wash
		4. Dryness retained /aggravated till next hair wash
2	<i>Kesh Kharatva</i> (Roughness of hair)	1. Normal hair
		2. Roughness at the tips
		3. Roughness from mid-length
		4. Roughness along full length
3	Thinning of hair	1. No noticeable thinning
		2. Thinning at the ends
		3. Thinning of complete individual hair strand
		4. Thinning of each strand and at scalp

**B. Objective Parameters:**

**Table No 2**

No.	Symptoms	Grade
1	<i>Keshchyuti</i> (hair fall)	0-10-20 hair strands after each washing/ combing/oiling process
		1-20-35 hair strands after each washing/ combing/oiling process
		2-35-50 hair strands after each washing/ combing/oiling process
		3-50+ hair strands irrespective of reason

1. 60 second Hair Comb Test- The patient will be asked to back comb the hair with a medium toothed comb for 60 seconds. Hair will be collected on a white chart paper and counted to grade the hair fall.
2. Trichoscopic analysis- This will be done using Bo viewer trichoscope so as to measure –
  - 2.1 Follicle analysis - Scalp area will be assessed for number of closed hair follicles in a marked space 1×1cm<sup>2</sup>.
  - 2.2 Density of hair -Number of hair strands observed in the same marked space of 1×1cm<sup>2</sup>.

**STUDY DESIGN:**

- Institutional Ethics Committee Clearance was obtained **Ref. No. BVDU/Exam/ 1927/2018-19** prior to the commencement of the study.
- Designed and Validated the Questionnaire.
- Patients diagnosed with *Khalitya* on the basis of symptoms and relevant etiological factors were selected after screening.
- Informed written consent was taken from each patient prior to their enrolment in the study.
- All patients were advised *Nidana Parivarjana* or abstinence from all sorts of exogenous trichological chemical toxins.
- All patients were advised *Shiroabhyanga* twice a week with *Koshna taila* on the day before hair wash and received *Rasayan churna vati* 1gm twice a day *anupana* of *Godugdha* in *Vyanodan kaal* for 6 weeks.
- Follow-up has been taken periodically on Day 7 – 14 - 28 and Day 42.

**SOURCE OF DATA:**

OPD of Dept. of Agada Tantra Bharati Vidyapeeth (Deemed to be university), college of Ayurved and Hospital, Dhankawadi, Pune – 411043

**STATISTICAL ANALYSIS:**

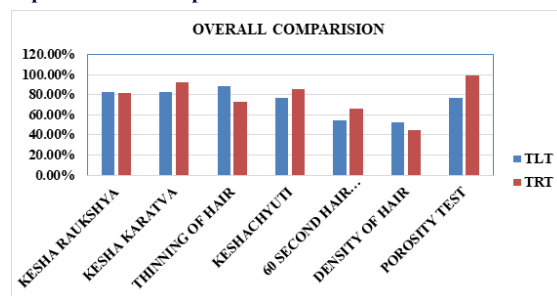
The software used for data analysis was SPSS Software. Wilcoxon test has been used to analyse the effect of treatment in both groups individually. Mann-whitney test has been used to compare the result of both groups effect of the data of both groups.

**RESULTS:**

A total number of patients screened for the study was 260 and 70 patients were enrolled in the study. Due to irregular follow up 10 patients were dropout and total number of 60 patients completed the study.

- **TLT** showed **82.35%** result and **TRT** showed **81.60%** result in *Kesharaukshya*. This shows that both the groups had significant alleviation of symptoms in *Kesharaukshya*. But *Triphaladi Tailam* had higher result compared to *Tiladi Tailam* on the grade of symptoms from Day 0-42. Both drugs have *Snigdha-Pichhila-Guru-Ushna Guna yukta* and *Keshya*. The overall attributes could have been impacted in counteracting the *Raukshya* effect of exogenous trichological toxins on hair and thereby strengthening it.
- **TLT** showed **82.35%** result and **TRT** showed **92.31%** result in *Keshha Kharatva*. In hair cosmetics so many chemicals and toxins are present and that are are *Ushna-Tikshna Guna yukta* and hard water has high minerals contents which leads to dryness / *Keshakharatva* and causes hairfall. This shows that both the groups had significant results in *kasha kharatva*. But *Triphaladi Tailam* had higher result compared to *Tiladi Tailam*. Because the drugs are *Sheeta -Madhura-Laghu Guna* , *Katu-Tikta-Rasayukta* and so more effects in that symptoms and hence contributed in the decrease of *kharatva* of hair after constant application/ administration of treatment regimen.
- **TLT** had **88.18 %** decrease in **Thinning of Hair** where as **TRT** showed **72.73%** decrease in thinning of hair. This shows that both the groups had significant results but TLT was more effective due to *Madhur-Tikta-Kashaya Rasa yukta* and *Tila, Krishna tila* and *Yastimadhu* help in *kashasthapana* due to *Snehana* properties.
- **TLT** had **76.96 %** decrease in *Keshachyuti* where as **TRT** showed **85.50%** decrease in *Keshachyuti*. This shows that both the groups had significant results. **TRT** is more effective. Many ingredients are *Pitta-Kapha Shamak*, *Keshya*, *Kandughna*, *Vishahara* properties that eliminate and pacify the local *Doshadusti* leading to alleviation of *Keshachyuti*.
- **TLT** showed **54.83%** alleviation of symptoms and **TRT** showed **65.91%** result in **60 second hair comb test**. This shows that both the groups had significant results. In symptoms grade **TRT** is more effective.
- **TLT** showed **52.94%** and **TRT** showed **45.00%** alleviation in **Density of hair**. This shows that both the groups had significant results. In these drugs all are *Snehana* properties and which helps to promote the growth of hair.
- **TLT** showed **76.92%** result and **TRT** showed **99.49%** alleviation in **Porosity test**. This shows that both the groups had significant results and **TRT** is more effective. Porosity test helps to know a bit about the structure of hair. Because of blow drying, bleaching, straightening, over washing and using harsh products can damage hair over time. This can cause hair cuticles to become raised and open, which may make it harder. Due to *Ushna-Tikta-Kashaya Guna yukta*, *Snehana* properties which helps moisture hair. Hair porosity may not be a term you hear often but knowing what type of hair porosity and have can help for better understand how to manage, treat and cure for hair.

**Graph-1 Overall Comparison between TLT & TRT**



**CONCLUSION**

Both *Tiladi Tailam* & *Triphaladi Tailam* are effective in *Khalitya* especially

- *Tiladi Tailam* is more effective in *Keshha chyuti*, Thinning of hair, Density of hair.
- *Triphaladi Tailam* is more effective in *Keshha kharatva*, Porous hair, *Keshabhanjana*.

**IN ADDITION TO THIS WE CAN CONCLUDE THAT**

1. Hard water and hair dye are the prime etiological factors as exogenous trichological chemical toxins.
2. Trichoscopic analysis in terms of improvement in hair density, thickness was remarkable.

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