

A COMPARATIVE STUDY OF *DHURDHURPATRADI TAILAM* AND *ELADI TAILAM SHIROABHYANGA* IN *DARUNAKA* CAUSED BY TRICHOLOGICAL EXOGENOUS TOXINS

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ABSTRACT

Lustrous healthy hairs are the crowning glory that not only define the beauty of an individual but boost confidence. Both contemporary and ancient sciences quote several diseases of hair/ *Kesh* i.e. Alopecia (*Khalitya*), Greying (*Palitya*), Alopecia areata (*Indralupta*) etc, Dandruff (*Darunaka*) being one of them. It affects almost 50% of population at post pubertal age of any sex and ethnicity. *Ayurved* quotes *Darunaka* as a *Kshudra roga* precipitated as a result of the vitiation of *Kapha* and *Vata* leading to dry scalp surface that causes *Kandu* (itching), *Raukshyakrit sphutan* (flaking) and *Keshchlyuti* (hairfall). The aetiological factors or *Hetu* apart from microbial growth, can be attributed to improper hygiene, environment induced skin changes, over exposure to exogenous toxins and also diet and hormonal imbalance. Contemporary medicine offers a variety of chemical based shampoos and lotions to counteract *Darunaka* but its limits are merely till control. A comparative study was hence planned to assess the efficacy of *Dhurdhurpatardi Tailam* consisting of *Visha dravya* and *Eladi Tailam* a formulation used as *Kandughna* and *Vishaghna* in *Darunaka* caused by various trichological exogenous toxins.

Total 40 patients were chosen by lottery method from BVMF's Ayurved Hospital of *Darunaka* caused by Trichological Exogenous Toxins and divided into two groups of 20 each for *Dhurdhurpatradi Tailam Shiroabhyanga* and *Eladi Tailam Shiroabhyanga*. Both drugs provided good improvements in *Darunaka*, but *Dhurdhurpatradi Tailam Shiroabyanga* provided better results in *Darunaka* caused by Trichological Exogenous Toxins.

Keywords: *Darunaka*, trichological exogenous toxins, *Shiroabhyanga*, *Dhurdhurpatradi Tailam*, *Eladi Tailam*.

INTRODUCTION

Lustrous healthy hairs are the crowning glory that not only define the beauty of an individual but boost confidence. Both contemporary and ancient sciences quote several diseases of hair/ *Kesh* i.e. Alopecia (*Khalitya*), Greying (*Palitya*), Alopecia areata (*Indralupta*) etc, Dandruff (*Darunaka*) being one of them.

Ayurved quotes *Darunaka* as a *Kshudra roga* precipitated as a result of the vitiation of *Kapha* and *Vata* leading to dry scalp surface that causes *Kandu* (itching), *Raukshyakrit sphutan* (flaking) and *Keshchyuti* (hairfall).¹ The aetiological factors or *Hetu* can be attributed to improper hygiene, environment induced skin changes, over exposure to exogenous toxins and also diet and hormonal imbalance. Contemporary medicine offers a variety of chemical based shampoos and lotions to counteract *Darunaka* but its limits are merely till control.

Ayurved, on the other hand, stresses on preventive as well as curative therapy. Regular head massage with different types of oil viz. *Tila Tailam*, *Kera Tailam* etc. has been stated as a part of *Dinacharya* and *Rutucharya* by the *Acharayas*. Benefits of *Shiroabhyanga* (oiling of hair) has been elicited in the *Brihatrayi*.^{2,3,4} Following these indications can prevent *Darunaka*.⁵

Medicated oils are more effective in the treatment, as they are fortified by the useful active principles of herbal drugs. Two such medicated oils viz. *Dhurdhurpatradi Tailam* and *Eladi Tailam* have been quoted by *Sahasrayogam*. The former has been elicited specifically in *Darunaka* while the latter is a preferred medication of *Kandu* and *Twak roga*.

Dhurdhurpatradi Tailam contains *Dhattur patra swaras*, *Dhattur beeja kalkam* and arrests *Darunaka* and *Keshchyuti*, while *Eladi Tailam*, is *Vata-Kaphaghna* and *Vishaghna* and is used in *Kandu*, *Pitika* and *Kotha nashak*.

A comparative study was hence planned to assess the efficacy of *Dhurdhurpatradi Tailam* consisting of *Visha dravya* and *Eladi Tailam* a formulation used as *Kandughna* and *Vishaghna* in *Darunaka* caused by various trichological exogenous toxins.

Previous work done revealed that *Dhurdhurpatradi Tailam* has been proven effective in *Darunaka*. On the other hand *Eladi Tailam* has been proven efficient in a variety of *Twak vikaras*, viz. Allergic contact dermatitis, Pesticide induced cutaneous toxicity etc.

However, no work has been done so far on *Darunaka* with trichological Exogenous Toxins as the aetiological factor. Similarly, the comparison of *Dhurdhurpatradi Tailam* and *Eladi Tailam* is a comparison between a *Vishayukta kalpa* and a *Vishaghna one*.

In *Darunaka*, due to the vitiation of *Kapha-Vata dosha*, symptoms like *Kandu*, *Keshchyuti*, *Raukshyalrit Sphutan* are seen. So there was a need to find a safe and effective remedy in the management of *Darunaka* caused by Trichological Exogenous Toxins.

Hypothesis

[H₀] Either of the two, or both, *Dhurdhurpatradi Tailam* and *Eladi Tailam Shiroabhyanga* are not effective in *Darunaka* caused by Trichological Exogenous Toxins.

[H₁] Either of the two, or both, *Dhurdhurpatradi Tailam* and *Eladi Tailam Shiroabhyanga* are effective in *Darunaka* caused by Trichological Exogenous Toxins.

Aim

To compare the efficacy of *Dhurdhurpatradi Tailam* and *Eladi Tailam Shiroabhyanga* are effective in *Darunaka* caused by Trichological Exogenous Toxins.

Objectives

- Validate a specially designed questionnaire so as to assess the prevalence of exogenous toxins as aetiological factors of *Darunaka*.
- Define the most common and / or aggravating aetiological factors of *Darunaka* with reference to trichological exogenous toxins.

- Conduct Randomized Clinical Trials to compare the efficacy of *Dhurdhurpatradi Tailam* and *Eladi Tailam* as a topical application via *Shiroabhyanga* in *Darunaka* caused by various trichological exogenous toxins.

Materials and Methodology

Materials

There were three drugs in this study namely

1. *Dhurdhurpatradi Tailam*⁶
2. *Eladi Tailam*⁷

The above said formulations were purchased from AVN Ayurveda Formulations Pvt. Ltd., Tamil Nadu, where they were manufactured as per the GMP standard. They were standardized and authenticated by the company itself and the certificate of the same is attached herein.

3. *Shikakai*⁸(*Acacia concinna* Wild.DC)

Shikakai was purchased from the local market and was authenticated at Dept. of Botany, Pune University.

Methodology

Type of Study:

Comparative Randomized Clinical Trial

Place of Study:

Dept. of Agada Tantra, B.V.M.F's Ayurved Hospital and Research Centre, Katraj-Dhankawadi, Pune 43.

Criteria of Inclusion:

Patients diagnosed with *Darunaka* caused by over exposed to the trichological exogenous toxins as the prime aetiological factor.

Patients of irrespective of age and gender.

Criteria of Exclusion:

Patients diagnosed with *Darunaka* but not having aetiological factor as per criteria.

Patients diagnosed with other scalp disease or undergoing any local scalp therapy for *Darunaka* or Chemotherapy, Radiation therapy or any other disease/ condition.

Parameters of Assessment

The Parameters of assessment included 3 Subjective parameters of *Kandu*, *Shirotwak Rauskshya* and *Raukshyakrit Sphutan* (Area affected) and *Raukshyakrit Sphutan* (Types of scales) and *Keshchyuti* were the objective parameters as quoted by *Brihatrayi*.¹ The Objective parameters were assessed with the help of MATLAB⁹ image analysis software and 60 second Hair Comb Test¹⁰.

Plan of Work

- Institutional Ethical Committee Clearance was taken (Bvdu/Coa/494/2015-16 Date 18-04-2016).
- Designing and Validation of Questionnaire was done.
- Special proforma of the case paper was designed. Patients diagnosed with *Darunaka* and fulfilling the criteria of assessment were included in the study.
- The sample size of 40 patients was finalized on the basis of the prevalence of *Darunaka* with Exogenous Toxins as *hetu* at the place of study and the study duration.
- Informed consent was taken prior to Commencement of the Clinical Trial.
- Selected patients randomly allotted and equally distributed to two groups by Lottery method.
- Patients of both the group were advised *Nidanparivarjan* and wash their hair with *Shikaki* only, for wash-off period and during the trial.
- *Shiroabhyanga* with *Dhurdhurpatradi Tailam* or *Eladi Tailam* was advised daily, on the day after the hair wash period.
- Follow-ups were taken periodically every 5 days for 30 days.

RESULTS AND DISCUSSION

Apart from Microbial growth¹¹, the cause of *Darunaka* currently found are Air pollution, Hard water, Overexposure to UV rays, Chemical abuse

and excessive heat contact with hair and scalp, which causes scalp irritation, desquamation of stratum corneum cells, excess alkaline triggering factor and dryness. Thus, all these *hetu* can be considered as Trichological Exogenous Toxins¹² which causes *Darunaka*.

In both the groups, there was a prevalence of young people between age group 18-29 years. The probable reason behind the maximum occurrence of this disease at this age can be that the individuals of this age are more conscious about their looks. Also, a person is tending to indulge in the said causative factors resulting into harm to the scalp and causing Dandruff.

A perfect consensus on gender maximity could not be reached, proving that *Darunaka* can happen to anyone on the either sex.

Maximum patients were found to consume multiple aetiological factors like air pollution (10%), hard water (10%), Chemical hair products (17.5%), Heat exposure (5%), Sunlight exposure (5%) and Mixed (52.5%). Occupation wise no specific pinpointing was possible.

The *prakruti* of patients included in the trial study was predominantly *Vata-Pitta*, *Pitta-Vata*, *Kapha-Vata* indicative of *dwandawaja dosha* predominance as a possible triggering factor.

The vitiation of *Kapha* and *Vata* lead to dry, cracked scalp surface that causes a *Kshudra roga*, *Darunaka* with symptoms like *Kandu* (itching), *Raukshyakrit Sphutan* (flaking) and *Keshchyuti* (hair fall). Apart from Microbial growth, the trichological exogenous toxins contact with hair and scalp, causes scalp irritation, desquamation of stratum corneum cells, excess alkaline triggering factor and dryness which causes *Darunaka*.

In all the symptoms, *Kandu*, *Shirotwak Raukshya*, *Raukshyakrit Sphutan* and *Keshchyuti* both groups showed significant results, but *Dhurdhurpatradi Tailam Shiroabhyanga* showed better results than *Eladi Tailam Shiroabhyanga*.

The significant results in *Kandu* and *Raukshyakrit Sphutan* by *Dhurdhurpatradi Tailam* can be attribut-

ed to *Dhattur*¹³, an *Upvisha* with its *Kaphahara*, *Katu vipaka*, *Krimighna*, *Ropan karma* pacified the *doshas*. Also due to Atropine¹⁴, Scopolamine, saponins¹⁵ and Flavonoids¹⁶, the chemical constituents of *Datura metel* Linn. acts as an antimicrobial, antifungal, anti-inflammatory and anti-allergic, thereby arresting the microbial proliferation, sebum secretion and excessive sweat. Also, normalizing the skin barrier function by antioxidants.

Whereas, *Shiroabhyanga* by *Eladi Tailam*⁹ rendered better results in *Shirotwak Raukshya*, due to *Kapha-Vataghna*, *Madhur rasa*, *Guru*, *Snigdha guna*, *Kandughna*, *Vishaghna karma* of the *dravyas*.

Inflammation is a local response of living mammalian tissues due to an injury or any irritant chemical substance, thus resulting in contact dermatitis, which forms like edema formation, dry scaly patches on the scalp as a main component of inflammation.

The anti-inflammatory¹⁷⁻²² and anti-histaminic²³⁻²⁵ properties of the contents of ET helped to control the inflammation, helping in the normalization of skin barrier function and less dryness.

3 constituents of *Eladi Tailam* have special properties by virtue of which they attained good results.

*Jala*²⁶ - (trichogenous activity), *Ela*²⁷ - Enhanced skin permeability (monoterpene) and *Tagara*²⁸ - Radioprotective (Hesperidine).

*Kera*²⁹ *Taila* as a base and regular *Shiroabhyanga*, helped in strengthening the roots of the hair while the *Madhur*, *Snigdha*, *Guru raspanchaka* and antioxidants³⁰ restored the healthy surface of the scalp adding shine and volume.

CONCLUSION

Dhurdhurpatradi Tailam Shiroabhyanga is more effective than *Eladi Tailam Shiroabhyanga* in *Darunaka* caused by Trichological Exogenous Toxins.

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