



Review Article

APPLICATIONS OF *SHIROABHYANGA* (HEAD MASSAGE) AND IT'S ROLE IN THE MANAGEMENT OF *DARUNAKA* (DANDRUFF) – A SCIENTIFIC REVIEW

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ABSTRACT

Darunaka, considered as dandruff is a *Kapalagata* and a *Shirogata roga* that commonly affects today's young generation because of their modified lifestyles, improper dietary habits, improper maintenance of hair, use of various chemical included hair products and due to high stress at the workplace. Due to the advancement of many new hair products, people hardly remember the application of hair oil, also called as *Shiroabhyanga*, ancient practice for maintaining the hair and keeping the mind cool. Modernization has lead to lack of these practices and a rise in the disorders of hair including stress. There are many studies are available on the scalp disease *Darunaka* and the application of *Shiroabhyanga* with specific oils. In this study an effort has been made to review all such studies that involve the *Darunaka* and *Shiroabhyanga* or the head massage or the application of oil and to evaluate the probable mode of action of the same which would be very helpful for the researchers, practitioners and Ayurvedic fraternity to validate the procedure of *Shiroabhyanga* and its applicability in the present health disorders that are caused due to excessive stress. This study might also give an idea to the novice researchers for incorporating an Ayurvedic therapy like *Shiroabhyanga* along with *Yoga* and other systems of medicine in reducing the complaints of the patient and serving the society for the better.

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INTRODUCTION

The condition of the hair plays an important role in our physical appearance and self-perception. The quantity, quality, and styling of our hair define our gender, age, health, and social status.^[1] Hair disorders are a common complaint in dermatology clinics and can be caused by a number of conditions, reflected in a specific diagnosis.^[2] The scalp is the anatomical area bordered by the face at the front and by the neck at the sides and back. It is characterized by a usually high density of terminal hair growth with numerous sebaceous glands that contribute to a specific microenvironment with significant differences from the rest of the skin. The scalp is a rich environment for microbes.^[3] Specifically, dandruff and seborrheic dermatitis, psoriasis, atopic dermatitis, and ultimately alopecia represent

pathologic conditions, in which oxidative stress is very commonly detected.^[4]

Dandruff is a common scalp disorder affecting almost half of the population at the pre-pubertal age and of any gender and ethnicity.^[5] No population in any geographical region would have passed through freely without being affected by dandruff at some stage in their life.^[6] The word dandruff (dandruff, dandriffe) is of Anglo-Saxon origin, a combination of 'tan' meaning 'tetter' and 'drof' meaning 'dirty'. Dandruff affects aesthetic value and often causes itching. It has been well established that keratinocytes play a key role in the expression and generation of immunological reactions during dandruff formation.^[7] The severity of dandruff may fluctuate with season as it often worsens in winter.^[8]

Several studies on the prevalence of dandruff across the world have shown a prevalence of dandruff of up to 50% in the general population.^[9] The prevalence may be increasing sharply with rapid urbanization. On the contrary, the prevalence of pityriasis versicolor is only 2–8%.^[10]

Dandruff (pityriasis capitis, seborrheic dermatitis confined to the scalp) is a disease that has been around for centuries despite several treatment options.^[11] Dandruff should not be defined only by its clinical presentation, pathophysiology and/or its etiological spectrum. The definition needs to include its impact on society as well. The scaly scalp may look unhygienic and untidy. It could make the sufferer feel self-conscious and embarrassed. Dandruff affects the self-esteem and confidence.^[12] Itching due to dandruff also causes great embarrassment to the sufferer in public. Dandruff causes more social and psychological problems than medical ones. The personal care industry conveniently offers its range of products targeting the psychological aspects of dandruff through carefully planned advertisements and through various products for dandruff. Dandruff is often defined as increased scaling of the scalp, representing the more active end of physiological desquamation.^[13]

This dandruff can be correlated to *Darunaka* in Ayurvedic science which has been opined by all Ayurveda *Acharyas* as one of the *Kshudrarogas*. *Kshudrarogas* are the minor diseases having simple etiology and symptoms. Acharyas like *Sushruta*, *Madhavakara*, *Yogarajnanaka*, *Bhavamishra*, *Chakrapanidutta* in *Chakradutta* and *Shree Govindadasa Sena* in *Bhaishajyaratnavali* have expressed it as a *Kshudraroga*, where as *Vagbhatacharya* gives a diverse opinion as a *Shirahakapalagata Rogas* caused due to vitiation of *Kapha* and *Vata Doshas* i.e., a disease affecting *Shiraha Kapala* (the skin of the scalp).

Though many studies are available on the scalp disease *Darunaka* and the application of *Shiroabhyanga* with specific oils, in this study an effort has been made to review all such studies that involve the *Darunaka* and *Shiroabhyanga* or the head massage or the application of oil and to evaluate the probable mode of action of the same which would be very helpful for the researchers, practitioners and Ayurvedic fraternity to validate the procedure of *Shiroabhyanga* and its applicability in the present health disorders that are caused due to excessive stress. This study might also give an idea to the novice researchers of incorporating an Ayurvedic therapy like *Shiroabhyanga* along with *Yoga* and Other systems of medicine in reducing the complaints of the patient and serving the society for the better.

Organs, tissues, and cells are constantly exposed to mechanical forces and subsequently react to them. For example, blood vessels are subject to shear stress of blood flow, bones receive pressure due to weight bearing, cartilage is exposed to hydrostatic pressure by weight bearing, and hypertrophic scars develop with increased tension to the wound.^[14]

Scalp massage is a way to deliver mechanical forces to the scalp including epidermis, dermis, skin appendages, blood vessels, and nerves. In the study of Koyama et al, they evaluated the effect of scalp massage on hair number, thickness, and growth rate. They also used finite element method (FEM) to analyze the mechanical effect of scalp massage on the subcutaneous tissue and the dermal papilla cells in the hair follicle and evaluated the effect of mechanical forces on human dermal papilla cells (hDPCs), which play an important role in hair growth due to interaction with hair matrix cells. Mechanical stress to the scalp was applied via stretching forces by scalp massage. This study showed that by FEM analysis, scalp massage induces mechanical stress on hDPCs and hair thickness increased following standardized scalp massage in healthy Japanese men.^[15]

Different oils used in *Shiroabhyanga* of *Darunaka* Tea Tree Oil

Tea tree oil possesses antifungal activity against *M. furfur* and may be useful in the treatment of dandruff. The efficacy of 5% tea tree oil containing shampoo as evaluated and found that it was effective and well tolerated in the treatment of dandruff.^[16]

Apple Cider Vinegar

Apple cider vinegar has been used for centuries for a variety of uses, from preserving foods to treating many medical maladies. It is most widely used as Apple cider vinegar is a great anti-inflammatory and anti-bacterial aid, it's a perfect tool for not only treating the agony associated with dandruff, but in treating the excess bacteria and yeast-like fungus that make dandruff reoccur as well.^[17]

***Methi* (Fenugreek Seeds)**

The effect of germinating seeds of fenugreek on the *M. furfur* isolated from hair dandruff was investigated. The study concluded that the germinating fenugreek seeds have antidandruff activity, which leads to decrease in hair dandruff as well as conditioning of hair.^[18]

***Eranda Patra* (*Ricinus Communis*)**

In a research conducted on the antidandruff activity of *Ricinus communis* L, revealed that the *R.communis* leaf extracts has anti dandruff effects due to its potential bioactive compounds. Phytochemical

screening of various solvent extracts of *R.communis* leaves showed the presence of flavonoids, saponins, tannins, phlobatannins and terpenoids. *R.communis* leaves are proven to be a source of active antidandruff agent.^[19]

Coconut Oil

Coconut oil is one of the best natural nutrients for hair. It helps in healthy growth of hair and for shiny quality. Coconut oil is extensively used in the Indian sub-continent for hair care. Most of the people in those countries apply coconut oil on their hair every day after bathing or showering. It is an excellent conditioner and helps the re-growth process of damaged hair. By regularly massaging the head with coconut oil, we can ensure that the scalp is free of dandruff, even if the scalp is chronically dry. It also helps in keeping hair and scalp free from lice and lice eggs. Coconut oil is therefore used as hair care oil and is used in manufacturing various products like conditioner and dandruff creams. Coconut oil is applied topically for hair care.^[20]

Coconut Oil & Turmeric

Coconut oil with turmeric as an active ingredient and antifungal has more or less the same effectiveness as ketoconazole 2% shampoo against complaints of itching, hair loss and scales caused by the fungus *Pitysporum ovale* as a cause of dandruff.^[21]

Coconut Oil & Yashti Churna

In a case study of a 56 yr old male patient from Jamnagar, OPD of Shalakyatantra, with the chief complaints of *Shirah Kandu* (itching on scalp), *Rukshata* (dryness on scalp), *Twak Sphutana* (cracks in the skin) with blood mixed watery oozing and *Kesha Chyuti* (hair fall). In this case, Ayurvedic formulation of *Arogyavardhini Vati* (orally), *Triphala Churna* (orally), *Manjisthadi Kwatha* (orally), *Yashti Churna* mixed with coconut hair oil as external application followed by washing the hair with a *Kwatha* (decoction) of *Triphala Yavkut* and *Shuddha Tankana*. The improvement provided by the therapy was assessed on the basis of sign and symptoms before and after the treatment. A special scoring pattern was developed for assessing signs and symptoms. The medication was found safe and effective in controlling sign and symptoms and improving the overall condition of scalp.^[22]

Triphaladi Taila

The study was conducted in 30 clinically diagnosed patients having classical sign and symptoms of *Darunaka*. The group comprised of 30 patients administered with *Triphaladi taila* (ext. application) for 30 days. The study design was prospective, open label and interventional. From the

observations and results, they concluded that drug showed highly significant results in almost all the classical signs and symptoms of *Darunaka* very effectively.^[23]

Gunja Taila & Nimbatwak Churna

In an open trial of randomised clinical study of 30 patients with a pre and post -test design, the patients were assigned to single group and were administered an external application *Gunjataila* and *Nimbatwak Churna* for a duration of 40 days and the results were analysed statistically. Out of 30 patients, 8 were complete relieved, 15 had good relief, and 7 obtained moderate relief and the study showed that *Gunjataila shiroabhyanga* with *Nimbatwak churna* showed better results in treating *Darunaka*.^[24]

Darunakaroganashaka Arka

In a case series of pre and post study, designed to evaluate the efficacy of *Darunakaroganashaka arka* mentioned in *Arkaprakasha* for the management of *Darunaka* prepared out of *Haritaki*, *Amrabeeja* majja and *Goksheera* and is applied externally over the scalp to reduce the condition. The study showed its effectiveness in reducing the symptoms of *Darunaka* with less reoccurrence rate and easy application.^[25]

Prapoundarikadi Taila & Karanja Taila

In a randomized comparative clinical study with 2 groups, Group A, *Prapoundarikadi taila shiroabhyanga* (head massage) and in Group B, *Karanja taila shiroabhyanga* (head massage) was done for thirty days, daily once in the evening. Results showed statistically significant changes with the reduction of severity in *Kandu*, Group A (50.98%) compared to Group B (26.53).^[26]

Karanja Taila, Nadi Sweda & Nimba Panchanga Kwatha

10 patients having symptoms of *Darunaka* were selected for the study that included *Shiroabhyanga* with *Karanja Taila*, *Nadi Sweda* with *Nimba panchang Kwath* and *Shirolepa* with *Indrajava*, *Widanga* and *Kapila Churna*. The study showed that *Shiro-Abhyanga*, *Nadisweda* and *Shirolepa* provide significant relief in the *Darunaka* by reduction in *Lakshanas* of *Kandu* (itching of the scalp) and *Twaksputan* (scaling of scalp).^[27]

Dhurdhurapatradi Taila and Malatyadi Taila

A total number of 40 patients were selected for the study and divided into two equal groups of 20 patients each and subjected to *Dhurdhurapatradi Taila Shirodhara* and *Malatyadi Taila Shirodhara* respectively. Both *Dhurdhurapatradi taila* and *Malatyadi taila Shirodhara* showed significant relief in the *Darunaka*, especially in *Lakshanas* like *Kandu* and *Twaksphutana*.^[28]

Dhurdhuraptradi Taila and Eladi Taila

In a study of Kadam et al, a Comparative Randomized Clinical Trial that included 40 patients was divided into 2 groups 20 each for *Dhurdhuraptradi Tailam Shiroabhyanga* and *Eladi Tailam Shiroabhyanga*. *Dhurdhuraptradi Tailam Shiroabhyanga* provided better results in *Darunaka* caused by Trichological Exogenous Toxins compared to *Eladi taila*.^[29]

Gunjataila and Tilataila

In Hiremath et al, a randomized, open labelled, non-controlled, comparative clinical study, for Group A, *Gujataila shiroabhyanga* and in Group-B *Tilataila Shiroabhyanga* was administered for thirty days, daily once in the morning. Group A showed complete remission in 30%, marked improvement in 30%, moderate 30% and 10% mild relief. In patients of Group B only 30% moderate relief and 10% mild relief from the *Darunaka* is noticed and 60% of the patients found no relief. *Gunjataila shiroabhyanga* showed higher significant effect in pacifying the symptoms of *Darunaka*.^[30]

Sahachara and Nimba taila

In a case report of 26yrs old girl, *Shiroabhyanga* was administered with lukewarm *Sahachara* and *Nimba taila* for 15 minutes for 21 days.^[31]

Kantakari Siddha Taila

This *Taila* is described in *Shiroroga* chapter of Rasratna samuchhaya which includes *Kantakari* and *Tila*, that has *Tikta katu rasa*, *Laghu*, *Ruksha*, *Thikshna guna*, *Ushna veerya*, *Katu vipaka* and *Kaphavatahara* property and is indicated in *Krimi* and *Charmavikara*. *Tila* has *Madhura*, *Kashaya*, *Tikta rasa*, *Guru*, *Snigda guna*, *Ushna veerya*, *Madhura vipaka*, *Thridhoshagna* property, one of the best *Vatahara dravya*. The combined effect of these two drugs over the *Doshas* is *Vata kapha shamana* leading to *Samprapti vighatana* of *Darunaka*. According to the conceptual study from various Samhitas, this study showed that *Kantakari Siddha taila shiroabhyanga* may be effective in the management of *Darunaka*.^[32]

Shodhana Karma & Shamana Karma

A case report with 25 years old patient with complaints of *Shirah Kandu* (itching over scalp), *Keshabhoomi Rukshata* (dryness of scalp), *Twak Sphutana* (cracks in the skin), and *Kesha Chyuti* (Hair fall), and itchy rashes over his trunk region. In present case, classical *Shodhana* (major purification therapy) was administered followed by *Shamana* (pacification) *Chikitsa*. *Shodhana* therapy was assessed based on signs and symptoms before and

after the treatment. These therapies showed effective results in the reduction of signs and symptoms of *Darunaka* and *Sheetapitta*.^[33]

DISCUSSION

Hair is considered to be a major component of an individual's general appearance. Shiny hair with a smooth texture is generally perceived to be healthy.^[34] Hair loss and dandruff are common dermatological problems encountered in clinical settings; often one being associated with the other.^[35]

Hair loss can be a stressful experience and may have direct and indirect causes, such as increased stress, in women, nutritional imbalances and genetic factors.^[36] The psychological impact of hair loss may be associated with images of reduced self-worth more in women than in men.^[37]

Hair fall and other hair afflictions are described in Ayurveda under the aegis of *Khālitya* (alopecia), *Pālitya* (canities/premature greying), *Dārunaka/Aruṇāsikhā* (dandruff) and *Indralupta/Ruhyā* (baldness) etc., in the chapters on minor diseases (*Kṣudraroga*).^[38] *Darunaka* occurs mainly due to vitiation of *Vata & Kapha dosha*. *Kandu* is one of the symptoms in *Darunaka*. This is due to the factors like accumulation of mala on the scalp. *Rukshata* in *Darunaka* is due to *Abhyangadvesha* and other *Vata* vitiating *Nidana* which causes roughness of scalp. *Rukshata* is pacified by *Snigdha Guna* of the oil. *Twak sphutana* in *Darunaka* is the result of the vitiated *Vata doṣha*. *Keshachyuti* (hair fall) is another symptom of *Darunaka*. The hair fall in *Darunaka* may be due to lack of *Snigdhatva* caused by vitiated *Vata*. The hair becomes dull and rough; owing to their abnormal dryness they become short, thin and fall out easily. *Daruṇa* (difficulty in tolerance) is another symptom of *Darunaka*. This is due to lack of *Snigdha guna* caused by vitiated *Vata*. Ayurveda describes a specific category of hair tonics or '*Keśya*' herbs that are beneficial for overall hair health. Various treatment modalities to improve hair health such as *Śirobhyāṅga* and *Śirovasti* have been described.^[39,40,41]

तत्राभ्यंगः प्रयोक्तव्योरौक्ष्यकण्डूमलादिषु॥ (अ. ह. २२/२४) [42]

Application of medicated *Taila* or *Ghrita* to the head is said as *Shiroabhyanga*. *Dalhan* in detail has explained about the absorption of *Sneha* used in *Abhyanga*, the oil used in *Abhyanga* reaches up to the different *Dhatus*, if it is applied for specific time. Acharya Charaka has also explained that the *Vayu* dominates in *Sparshanendriya* and its *Adhisthana* is *Twak* i.e., skin. The soft and gentle massage over head improves blood circulation. The *Snigdha guna* of *Taila* pacifies the *Rukshatva* thereby preventing shedding of scales and hair fall. The *Gunas* of *Taila* and its

chemical composition show microbicidal, antibacterial, skin dermatosis. Thus *Shiroabhyanga* counteracts different aspect of disease process hence achieving *Samprapti Vighatana* and thus pacifies the disease.^[32]

Tea tree oil could play an important role in the treatment of dermatologic diseases. Tea tree oil shows promise as a topical antifungal agent, with recent clinical data indicating efficacy in the treatment of dandruff and oral candidiasis. TTO compounds have different efficacy profiles. It is known to have antioxidant activity, anti-bacterial activity, anti-viral activity, anti-fungal activity, anti- protozoal activity, activity against *Acne vulgaris* and *Seborrhic dermatitis* and also plays a role in wound healing.^[43] Apple cider vinegar is a great anti-inflammatory and anti-bacterial aid, it is a perfect tool for not only treating the agony associated with dandruff, but in treating the excess bacteria and yeast-like fungus that make dandruff reoccur as well.^[17] *Methi* or fenugreek seeds are more effective in declining the growth of dandruff causing fungus *Malassezia furfur* and the use of fenugreek extract is functional in inhibiting the growth of microorganisms.^[44]

Sibi *et al* revealed that the *R.commuis* leaf extracts has antidandruff effects and due to its potential bioactive compounds. Phytochemical screening of various solvent extracts of *R.communis* leaves revealed the presence of flavonoids, saponins, tannins, phlobatannins and terpenoids and concluded that *R.communis* leaves could be a potential source of active antidandruff agents and it's in vivo potencies.^[19]

Coconut oil is also highly effective in reducing protein loss which can lead to various unattractive or un healthy growth qualities in your hair. It is an excellent conditioner and helps the re-growth process of damaged hair. It also provides the essential proteins required for nourishing and healing damaged hair. Research studies indicate that coconut oil provides better protection to hair from damage caused by hygral fatigue.^[20]

Coconut oil with turmeric active ingredient as an antifungal has more or less the same effectiveness as ketaconazole 2% shampoo against complaints of itching, hair loss and scales caused by the fungus *Pitysporum ovale* as a cause of dandruff.^[21]

Yashti Churna with coconut oil was found safe and effective in treatment of *Darunaka* and improves patient's quality of life. *Yashtimadhu Churna* along with coconut oil having property of *Madhura Rasa*, *Guru*, *Snigdha Guna*, *Sheeta Virya*. *Madhura Vipaka*, *Keshya*, *Kandughna*, *Daha Prashamana*, *Vrana*(ulcer healing property), *Daha*, *Rakta-pitta Shamaka*,

Vranasotha properties pacifies the aggravated *Dosha* and helps in nourishment of hair and scalp.^[25]

The mode of action of *Triphaladi taila* with *Shiroabhyanga* increases the blood circulation in the scalp and hence impure blood is exchanged by fresh blood and thus due to the different properties of *Taila* like *Snigdha guna*, *Katu*, *Tikta rasa*, *Ushna virya* removes vitiated *Dosha* from the *Srotas* and helps in curing the disease.^[23] Both *Gunja taila* and *Nimbatwak choorna* are easily economically available and have *Kapha vatahara*, *Kustagna*, *Krimigna*, *Kanduhara* and *Keshya* properties, which are effective in treating *Darunaka* (Pityriasis Capitis). Latest researches also proved that all these drugs have anti inflammatory, anti-fungal, anti-helmenthic and antibacterial activities.^[24]

Our Ayurvedic classics mention different procedures and medication for the treatment of disease *Darunaka*. *Darunaka roganashaka arka* is mentioned in *Arka prakasha* for the management of *Darunaka*. *Arka* is prepared out of *Haritaki*, *Amrabeeja majja* and *Goksheera* and is applied externally over the scalp to reduce the condition. *Haritaki* has *Lavana varjita pancha rasa*, *Laghu*, *Ruksha guna*, *Ushna virya*, *Madhura vipaka* and *Tridosahara* property. Due to this, it helps in reducing the *Twak sphutata* and *Rukshata*. *Amrabeeja* has *Kasaya rasa*, *Katu vipaka*, *Sheeta virya* and *Kaphapittahara* property which help in reducing the *Kandu* and *Keshachuti*. Also both *Haritaki* and *Amrabeeja* has *Krimigna* property. *Godugdha* gives *Snigdhatva* to scalp and reduces the *Rukshata*. So combination of all these drugs with their combined action helps in breaking the pathology of the disease.^[25]

Shiroabhyanga with this *Taila* is said to be effective due to its properties such as *Snigdha guna*, which acts through its *Vatahara*, *Kaphakara* and *Vrishya* properties. It performs the actions like *Snehana*, *Kledana* and *Vishyandana* at cellular level of the body. *Guru guna* of the *Prapoundarikadi taila* increases the bodily strength and *Kapha*, prevents fainting, decreases the perspiration and stabilizes the muscles and organs. *Mridu guna* of the *Prapoundarikadi taila* reduces the roughness. *Drava guna* of the *Prapoundarikadi taila* makes the *Snehana* drug propagate swiftly all over the body and liquefies the *Doshas* and mobilizes them by increasing their flowing capacity. *Pichhila guna* of the *Prapoundarikadi taila* leads to longevity and increases the body strength. It also increases *Kapha* and produces heaviness. *Sara guna* of the *Prapoundarikadi taila* mobilizes the *Doshas* and *Mala* i.e., waste products by this property. *Manda guna* of the *Prapoundarikadi taila* makes the *Sneha dravya* diffuse slowly by this and it remains in the contact of

Doshas, Dhatus and Malas for long time. *Sukshma guna* of the *Prapoundarikadi taila* helps the drug to enter in the fine or the minute channels.

Karanja taila has the properties of *Teekshna guna, Tikta, Kashaya rasa* and *Ushna veerya*. By its *Teekshna guna* and *Ushna veerya* it balances *Vata* and *Kapha doshas*, acts as antimicrobial, anthelmintic, germicidal, antipruritis, anti-inflammatory and anti-diabetic. Thus, the soft and gentle massage improves blood circulation to the *Kapala pradasha*. The *Snigdha* present in the *Taila* pacifies dryness thereby preventing the shedding of scales and hair fall. The ingredients or the chemical composition present in the *Taila* does the actions of microbicidal, antibacterial, skin dermatosis and other aspects as mentioned in the drug review. Thus, *Shiroabhyanga* counteracts different aspects of the disease process thereby achieving the *Samprapthi vighatana* and thus pacifies the disease.^[26]

Shiroabhyanga means the *Abhyanga* of *Shiropradesh*. *Abhyanga* is the procedure which has to be done on daily as per told in *Dincharya* particularly it is done on *Shira, Karna* and *Pad Pradesh*, *Acharya Charaka* has described that *Vayu* dominates in the *Sparshanendriya* i.e., tactile sensory organ and this sensory organ is lodged in the skin. The *Abhyanga* is exceedingly beneficial to the skin, so one should practice it regularly. *Shiroabhyanga* cures all the diseases of *Shirpradesh* and helps to strengthen hair density and hair roots as per told in *Yogratnakara*. So *Shiroabhyanga* with *Tikta katu* and *Ushna gune Karanja Taila* helps to reduce all *Lakshanas* of *Darunaka*.

Nadi sweda is unique procedure applied over a particular local area. In *Darunaka* the main *Doshas* are *Vata* and *Kapha*, while *Sweda* is indicated in *Vatag* and *Vatakaphaj vyadees*, so it helps to cure *Darunaka*. For *Nadi sweda nimba kwatha* is used which is also enhances the action of *Sweda* in *Darunaka*.

Indication and benefits of *Takradhara* holds good for *Shirolepa*. *Takradhara* is useful in greying of hairs, gives strength to hairs and also useful in all *Shirovikaras*. *Takradhara* pacifies all *Doshas*. So it helps to reduce all *Lakshanas* of *Darunaka*.^[27]

Sushruta described the mode of action of *Bahya snehana* as the *Virya* of drugs presents in *Abhyanga, Dhara, Avagaha, Lepa* etc are absorbed into skin and then digested by *Agni (Bhrajaka Pitta)*. Commentator *Dalhana* also explained that the oil used in *Bahya snehana* reaches up to the different *Dhatu* if applied for sufficient time. Sushruta has told that oil used for *Bahya Snehana* enters the *Romakupa* (root of the hair), *Siramukha* (opening of the vein) and *Dhamani* nourishes the body. The heat and the

pressure by *Shirodhara* causes the blood vessels to dilate, which increases blood circulation and promotes healing, evacuation and cleansing of the secretary passages and also enhances the absorption of medicine through the skin. *Dhurdhurapatradi taila* and *Malatyadi taila* has been explained as one of the most effective medicine in the treatment of *Darunaka*.

Dhurdhurapatradi taila includes *Dhatu* and *tila taila* and *Malatyadi taila* consists of *Malati, Agni, Karaveera, Karanja* and *Tila taila*. Properties of *Dhatu* and *Karaveera* are *Tikta, Katu rasa; Laghu, Ruksha guna; Ushna virya; Katu vipaka; Vatakaphashamak*. *Malati* is *Tikta, Kashaya rasa; Snigdha, Laghu, Mrudu Guna; Ushna virya; Katu vipaka; Tridoshashamaka*. *Agni* is *Katu rasa; Laghu, Ruksha, Tikshna guna; Ushna virya; Katu vipaka; Kaphavatashamaka*. *Karanja* is *Tikta, Katu, Kashaya rasa; Laghu tikshna guna; Ushna virya; Katu vipaka; Kaphavatashamaka*. *Tila taila* is *Madhura rasa; Tikta, Kashaya anurasa; Snigdha, guru, Sukshma, Vyavyi, Sara, Vikasi Guna; Ushna virya; Madhura vipaka; Vatahara*.^[28]

The significant results in *Kandu* and *Raukshyakrit Sphutan* by *Dhurdhurapatradi Tailam* can be attributed to *Dhattur*, an *Upvisha* with its *Kaphahara, Katu vipaka, Krimighna, Ropan karma* pacified the *Doshas*. Also due to *Atropine, Scopolamine, saponins* and *Flavonoids*, 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 functions by anti-oxidants.

The anti-inflammatory 17-22 and anti-histaminic 23-25 properties of the contents of *Eladi Taila* helped to control the inflammation, helping in the normalization of skin barrier function and less dryness. 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*.^[29]

Shiroabhyanga with *Gunjataila* provided better relief in all symptoms of *Darunaka* especially in *Kandu, Rookshata, Twaksphutana* and *Keshachyuti*. *Shiroabhyanga* with *Tila taila* provided moderate relief in all symptoms of *Darunaka* but 60% of the patients didn't show any relief. *Gunjat aila* provided better overall effect to the patients of *Darunaka* with highly significant statistical values than *Shiroabhyanga* with *Tila taila*.^[30] *Kantakari* has *Tikta katu rasa, Laghu, Ruksha, Thikshna guna, Ushna veerya, Katu vipaka* and *Kaphavatahara* property.

Roga: Krimi, Charmavikara. Tila has Madhura, Kashaya, Tikta rasa, Guru, Snigda guna, Ushna veerya, Madhura vipaka, Thridhoshagna property. The combined effect of these two drugs over the Doshas is Vatakaphashamana leading to Samprapti vighatana of Darunaka.^[32]

Both Sahachara and Nimba taila are Kapha - vata hara and Kapha vata Pitaghna and Nimba is krumighna.^[31]

Though Samshodhana does Dhatu Sthirata i.e., it makes Dhatu capable of proper functioning, but after Shodhana, Shamana drugs, mainly Pitta- Vata Shamaka and Raktashodhaka (~blood purificatory) were advised for better therapeutic effects and to avoid remissions.^[32]

In Ayurvedic science, many oils have been described and indicated for Darunaka to be applied in the form of Shiroabhyanga. But all that has been described by Ayurveda Acharyas have not been completely found in the research works despite few that has undergone clinical trials and published as a paper. In this review, an attempt has been made to collect all the research works that studied the role of Shiroabhyanga with various Tailas used in Darunaka. The aim of the present review is to provide the complete picture of the studies that has been carried out on Darunaka so that the new researchers or the post graduates will be able to choose the different Tailas or the treatment apart from the one that has already been conducted on the same topic to avoid the duplication of trials. This would be very helpful and serve as a guide for the practitioners for the practical application on the patients.

CONCLUSION

Darunaka is a very disturbing hair problem which makes the person more conscious inspite of it causing severe hair fall, alopecia and gradually to baldness. We find many advanced hair products available in the market to overcome this problem but fails to completely relieve the problem which makes to find an alternative. In Ayurvedic science various medicated hair oils have been described for Darunaka or dandruff in alleviating the issue and is being advocated since centuries. In this review, an attempt has been made to collect all the research works that studied the role of Shiroabhyanga with various Tailas used in Darunaka so that the new researchers or the post graduates will be able to choose the different Tailas or the treatment apart from the one that has already undergone the trial on the same topic to avoid the duplication of trials. This would be very helpful and also serve as a guide for the practitioners for the practical application of the various Tailas that has been studied in the patients of Darunaka.

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