

**A REVIEW OF AYURVEDIC MANAGEMENT FOR DANDRUFF (DARUNAKA)****Wairagade S<sup>1\*</sup>, Wairagade T<sup>2</sup>, Giri D<sup>1</sup>, Singh S<sup>1</sup>, Singh A<sup>3</sup>**

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**ABSTRACT**

Dandruff is a common scalp disorder affecting almost half of the population. According to ayurveda, dandruff may be correlated to darunaka which is the most common cause of hair loss. Ayurveda classics dealt the different procedures and medications to treat the disease darunaka (dandruff). As a person with dandruff is more likely to feel down on the social ring, it is more of social concern and affects aesthetic value. Under kshudraroga, acharya sushruta referred to darunaka with symptoms such as rukshata, kandu, sphutana twak, etc. Dandruff may occur due to air pollution, water pollution, altered lifestyle, erratic daily routine, poor hygiene, and immune system, sweating, mental stress, etc., which can lead to many infections of bacteria and fungi. It is a common scalp condition that affects approximately half of the pre-pubertal age population and any gender and ethnicity. At some point in their lives, no population in any geographical area would have openly gone by without being affected by dandruff. The line of care for darunaka in the classics is shiroabhyanga, nasya, shirodhara, shirobasti, shirolepa and siravyadha. A review of ayurvedic management for dandruff (darunaka). Ancient acharyas have stated a multidimensional approach towards the management of darunaka. The multidimensional approach of ayurveda towards management of darunaka in the form of shodhana chikitsa, shamana aushadhis, and sthanika chikitsa along with nidana parivarjana gives satisfactory results to the patient.

**KEYWORDS:** Darunaka, Dandruff, Malassezia, Shodhan chikitsa, Shaman chikitsa, Lepa.**Received - 30/05/2021, Reviewed - 08/06/2021, Revised/ Accepted - 19/06/2021****CORRESPONDENCE:****Dr. Sonali Dilip Wairagade\*** ✉ [sonaliwairagade@gmail.com](mailto:sonaliwairagade@gmail.com)**Address -** Department of Kayachikitsa, Datta Meghe Ayurved Medical College Hospital and Research Centre, Nagpur, Maharashtra, India**INTRODUCTION**

Dandruff is a widespread scalp disorder affecting almost half of the post-pubertal population of any society and both genders. Dandruff represents 25% of all scalp disorders and is present in an estimated 15-20% of the total population and more than 50% of the adult population. The pathogenesis of dandruff involves hyper proliferation, resulting in deregulation of keratinization.<sup>(1)</sup> The corneocytes clump together, manifesting as large flakes of skin. Although the mechanism is not fully understood Dandruff is a clinical condition caused by Malassezia (Pityrosporum) species is of great cosmetic concern all over the world. Dandruff is a natural process, which cannot be eliminated but can be managed and controlled. The goal of the therapy is to reduce the number of M. furfur on the scalp, reduce morbidity, prevent complications, and to delay reoccurrence for as long as it can be achieved and. A variety of topical formulations are available for treatment.

Ayurveda is the first and foremost spiritual science that offers a scientific approach to live in harmony with nature.<sup>(2)</sup> Ancient Acharyas have explained 'Shira' as 'Uttamanga'.<sup>(3)</sup> Acharya Charaka has included Shira as one among the Dashapranayatana.<sup>(4)</sup> It is also considered as one among three

Marmas.<sup>(5)</sup> Acharya Vagbhata have described 19 Shiroroga out of which, are Shirokapalaroga and 'Darunaka' is one among them.<sup>(6)</sup> Acharya Sushruta has included this under Kshudrarogas.<sup>(7)</sup> It is a Roga affecting mainly the Kapala that is scalp and it also hampers the normal healthy status of hair. Problems like hair-fall and dandruff make people more conscious.<sup>(8)</sup> Excessive as well as improper use of cosmetic products, Unhygienic conditions, pollution, and many more factors may cause hair problems.<sup>(8)</sup> There are many market preparations which are advised by modern dermatologist but it has some limitations as the effect is not long-lasting or cost of treatment is very high.<sup>(9)</sup> The disease is very irritating and disturbs the routine life of the patient and may hamper the mental health also. As satisfactory results are not available, patients are continuously looking with hope towards Ayurveda. Ayurveda plays an important role in the management of Darunaka as its unique treatment modality provides long-lasting results through three basic principles of treatment that is Nidana Parivarjana, Shodhana Chikitsa, and Shamana Aushadhis. Sthanika Chikitsa in terms of Lepa and Dhavana is also important in order to relieve the symptoms and nourish the hair.

**Ayurvedic literature review**

The word 'Drunaka' is derived from the word 'Daruna' which means 'Kathina' or 'difficult to bear' or 'tolerate'.<sup>(9)</sup> Shirapradeshi Kandu (itching), Rukshata (dryness), Shirotwaka Sphutanam or Keshabhumi Prapatana (cracking of the scalp skin with fine flakes), and Keshachyuti (hair-fall) are the cardinal symptoms of Darunaka which involves mainly vitiated Vata and Kapha Doshas.<sup>(10)</sup> It affects almost everyone mostly in the adult life and people of either sex get affected by this.<sup>(8)</sup>

With regard to the available description of the disease, Dandruff can be correlated with the Darunaka due to the similarity of signs and symptoms and the pathophysiology of the two diseases.

According to Vagbhata.<sup>(11)</sup> and Sharangadara.<sup>(12)</sup> the Darunaka is a kapalagata roga but Sushruta<sup>(13)</sup> and other acharyas explained this disease under kshudra rogas, Dandruff is an irritative scalp condition in which the cardinal characteristic is the shedding of dead tissue from the scalp with an itchy feeling. Rejection of keshha taila, improper cleaning, sleeping during the day, night vigil, dust exposure, hot weather, etc. are causative factors for Darunaka with symptoms such as Kandu, Rukshata, Twak sphutana, Keshha Chyuti, etc. due to the vitiation of Vata and Kapha dosha.<sup>(13,14)</sup> There is no clear cause and solution for this disease so far. There is also a need to establish a safe and efficient solution for the treatment of Darunaka.

The classics of the Darunaka treatment line are Shiroabhyanga, Nasya, Shirodhara, Shirobasti, Shirolepa and Siravyadha. In herbal medicine, *Elaeocarpus serratus*, and *Psidium guajava* leaf paste have been used as home remedies for dandruff in Sri Lanka for thousands of years. This work is therefore intended to study the efficacy of the dandruff paste for *Elaeocarpus serratus* and *Psidium guajava* leaves.

**Modern literature review**

**Table 1 and Table 2** shows Dandruff is a common scalp disorder that affects more than 50% of the human population and affects the social behavior of the sufferer along with possessing an unhealthy scalp. It is characterized by the presence of corneocytes that form clusters due to their high cohesive power, in the form of flaky white to yellowish scales, along with by itching.<sup>(15)</sup> has been observed that dandruff occurs mainly between puberty to middle- age, as it's the phase when sebaceous glands are most active.



Figure 1: Scalp with dry dandruff<sup>(16)</sup>



Figure 2: Scalp with oily dandruff<sup>(16)</sup>

**Causes:** The cause of dandruff varies among individuals, depending on their vulnerability. Causes can be classified into-

Microbial and Non-microbial.

**Microbial Factors**

**Fungal:** *Malassezia furfur* is considered the leading cause of dandruff. The fungi - *Malassezia* can lead to dandruff by the following mechanisms-

➤ *Malassezia* activates the scalp enzyme called Lipase. The enzyme induces sebum triglyceride oxidation to create unsaturated and saturated fatty acids. For self-proliferation and development, saturated fatty acids are consumed by fungi. Oleic acid and arachidonic acid contain unsaturated fatty acids. Oleic acid is a human skin irritant, while arachidonic acid is involved in the production of inflammatory responses. Thus the result of the dreadful conditions of the fatty acids is scalp skin irritation, inflammation, and fungal growth. These further cause dry flakes called dandruff. Figure 3 represents this mechanism.

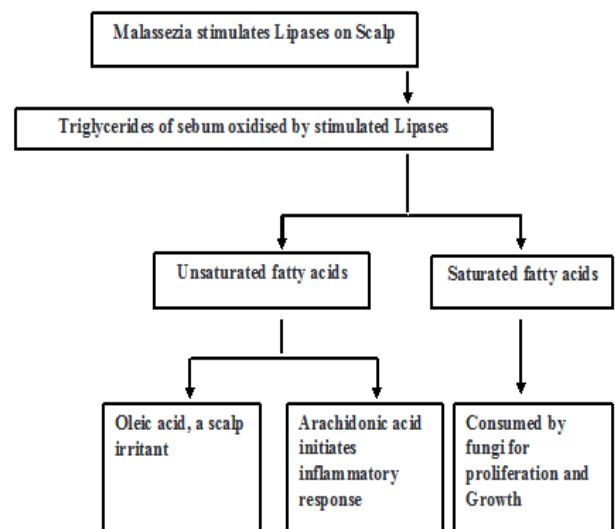


Figure 3: Represents the Mechanism by Which *Malassezia Furfur* Causes Dandruff

Altering the natural shedding of dead skin cells is the other mechanism by which this fungus causes dandruff. Few scalp enzymes eat up connections to individually slough them between dead skin cells. This enzyme feature is modified by *Malassezia* and prevents the cutting of ties. This leads to corneocyte aggregation in clusters that shed off, leading to visible white flakes.

**Bacterial:** Disequilibrium in the proportion of the two main bacterial populations found on the scalp *Propionibacterium acnes* and *Staphylococcus epidermidis* may also be a cause of dandruff.<sup>(17,18)</sup>

**Non-microbial Factors**

1. Damage to the scalp Stratum corneum<sup>(19)</sup>
2. Oily or irritated skin
3. Individual susceptibility to Oleic acid
4. Dry scalp

5. Sensitivity to haircosmetics
6. Dirt accumulation due to less frequent shampooing
7. Other scalp conditions like psoriasis,eczema,etc.

**Treatment:** Treatment of dandruff can be done by adopting any or all of the following strategies: <sup>(20)</sup>

Treatment strategies include:

**Treatment of the Cause:** This primarily includes use of anti-fungal agents like Zinc Pyrithione, Selenium sulphide, Ketoconazole, Climbazole, Clotrimazole, etc.

**Treatment of the Symptoms:** This comprises employing anti-proliferative like coal tar and keratolytic agents like Salicylic acid.

## Drug review

### Ayurvedic

Herbs are widely used as remedial agents because such drugs are easily available at low cost and comparatively safe and the people have good faith in such remedies. In India, the Ayurvedic system evolved over 5,000 years ago and is still in practice. The Rig Veda and Atharvanaveda have included more than 700 medicinal prescriptions. The world market is also moving towards herbal medicines for health care, health foods, and cosmetic purposes including hair preparations. India is a rich legacy for the cultivation and production of herbal medicines due to its diversified climatic conditions. Indian traditional literature and ethanopharmacological study present a number of plants/ formulations with proven efficacy as hair formulations.

There is also a wide range of herbal ingredients like pepper extract, basil extract, neem extract, rosemary oil, basil oil, clove oil, coleus oil, tea tree oil which have been documented to have good anti pityrosporum or antidandruff activity. Herbal formulations have a growing demand in the world market. To overcome this entire problem was the main intention of our project. So we prepared polyherbal anti-dandruff powder, which is a multipurpose powder for hair care treatment.

- Shodhan chikitsa

1. Yashtimadhu Taila Nasya - Nasya Karma is done in Darunaka to eliminate vitiated Kapha Dosha and Mala through Nose (Nasa) is the gate towards Shiro. Avapida Nasya is recommended in the treatment of Darunaka by Various Acharya
2. Both Sushruta and Vagbhatta has described Lalata Sira as Vedhya Sira in Shiroroga
3. Dhurdhoorpatradi Taila Shirobasti.<sup>(21)</sup>

- Shaman Chikitsa

1. ArogyaVardhiniVati
2. TriphalaChurna
3. ManjishthadiKwath
4. TriphalaYavkut +ShuddhaTankana
5. Yashtimadhu Churna

- Application of Siro Lepa (application of paste over the scalp region), herbal oils, herbal shampoo, and other Ayurvedic preparations for the treatment of Dandruff (Darunaka)

1. Haritaki mixed with Takra (buttermilk)
2. Paste of leaves of Elaeocarpus serratus and Psidium guajava
3. Hair pack of Amla, Bhringraj, Neem, Reetha, Hibiscus, Tulsi(Holy Basil), Ginger
4. For local application- paste of Chironji seeds (Buchanania lanzan), Yashtimadhu (Glycyrrhiza glabra), Kutha (Saussurea lappa), Urad (Vigna mungo), and Saindhav lavan mixed with honey or application of paste of seed of mango powder with Haritaki (Terminalia chebula) powder is also suggested.<sup>(22)</sup>
5. The affected parts should be washed with the alkaline solution of Kodrava seeds.<sup>(22)</sup>
6. Neem extract
7. Rice water
8. Lemon juice
9. Cow's urine (Gomutra)
10. Dhurdhurapatradikera tail - 620 gm D.meatal paste (Dhattura beeja kalka), 2.5 litre's of Coconut oil (narikera tail) combination 10 litres of D.metal juice and 8 lites of water (dravadravya) (2-litre dhatura swarasa + 8 litres water) was added. The tail was prepared in the lab until getting oily consistency.
11. The polyherbal powder shampoo - Shampoo is formulated using natural ingredients with Acacia concinna (Shikakai), Lawsonia inermis (Henna), Aloe vera (Aloe), Ocimum sanctum (Tulsi), Azadiracta indica (Neem) and Fenugreek (Methi).
12. Triphaladi tail.<sup>(23)</sup>
13. Gunjadi tail
14. Narikel tail
15. Tea tree oil -FabIndia Tea tree dandruff control oil
16. Tea Tree oil and Rosemary extract - Himalaya Anti Dandruff Hair Oil
17. Rosemary oil and lemon oil - Trichup oil
18. Cedarwood, Patchouli oil, Rosemary and eucalyptus extracts - Aroma Magic Anti-Dandruff hair oil
19. Basil and Neem - Tvam Hair Oil

### Diet recommendations (aahar)

1. Include vegetables such as drumstick
2. Use ghee in a moderate amount
3. Eat fruits such as mango, pomegranate, lemon, coconut
4. Have food rich in vitamin E (almond, pine nuts, peanuts, spinach, flaxseed oil, soya bean) and omega 3 fatty acids (flaxseed, walnut, sardines, salmon, soyabean, tofu, shrimp) for good scalp health
5. Avoid wrong food combinations (e.g. fish with milk)
6. Avoid drinking cold water

A number of studies on Ayurvedic remedies for different skin problems and underlying systemic conditions were reported.<sup>(24-27)</sup> Few of the related studies were reviewed.<sup>(28-32)</sup> Some interesting cases and studies were reported by Bansod et al.<sup>(33)</sup>, Henry et al.<sup>(34)</sup>, Varma et al.<sup>(35,36)</sup> and Shikha et al.<sup>(37)</sup>

**CONCLUSION**

Ancient Acharyas have stated a multidimensional approach towards the management of Darunaka. The multidimensional approach of Ayurveda towards management of Darunaka in the form of Shodhana Chikitsa, Shamana Aushadhis, and Sthanika Chikitsa along with Nidana Parivarjana gives satisfactory results to the patient.

These leaps (paste) nourishes the scalp and restore moisture balance, eliminate dandruff and scalp infections, reduces scaling and irritation of the skin cell repair, and rejuvenate the tresses effectively. Being an anti-fungal, anti-bacterial, anti-inflammatory agents; this lepa helps to eliminate fungal growth, bacterial infections and inflammation due to scratching the scalp and treated the issue of dandruff.

Thus, the combined effect of Shodhana Chikitsa and Shamana Aushadhis along with Sthanika Chikitsa gave excellent results in relieving the complaints of Darunaka.

**CONFLICT OF INTEREST**

Nil

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**ETHICAL CLEARANCE**

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