



Research Article

A CLINICAL STUDY TO EVALUATE THE EFFICACY OF NASYA KARMA WITH ANUTAILA AND KESHAMITRA YOGA IN KHALITYA W.S.R TO KESHPATANA (HAIR FALL)

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ABSTRACT

Khalitya and *Palitya* are two disorders described in Ayurveda texts which are similar to hair loss. According to concept of *Tridosha*, it may be produced due to *Prakopa* or *Vridhi* of *Vata* and *Pitta Dosha*. In Ayurvedic terms, hair fall is coined out as '*Keshpatana*'. The production of first *Dhatu* (*Rasa Dhatu*) in qualitative form is responsible for the production of next (*Uttarouttar*) *Dhatu* and upto *Sukra Dhatu*. The nutrients required for *Asthi Dhatu* are responsible for the quality and strength of hair. **Aim and objective:** Evaluation of the combined effect of *Anutaila Nasya* and *Keshamitra yoga* in *Keshpatana* in comparison of only *Keshamitra yoga*, to evaluate the efficacy of *Nasya Karma* in management of *Keshpatana*. **Material and methods:** In the present clinical study, 60 patients of *Keshpatana* were selected randomly from the O.P.D & I.P.D of Gurukul Campus, U.A.U, Haridwar and were randomly divided into two groups (30 patients in each). Out of which 6 patients went to LAMA. *Keshpatana* in Group A were treated with *Anutaila Nasya*, which was given in schedule for 3 courses of 7 days and with a gap of 3 days and *Keshamitra Yoga*. Group B was given *Keshamitra Yoga* 5gm BD orally for 30 days. **Result:** The therapeutic effect of the treatment was assessed on both sign and symptoms and tests. Group A marked relief (≥ 75 -99% relief) in 12 patients (46.15%), moderate relief (≥ 51 -74% relief) was seen in 13 patients (50%) and 1 patient (3.8%) showed mild relief. In group B, 19 patients (73.07%) showed mild relief, 6 patients (23.07%) showed moderate relief, and marked relief (≥ 75 -99% relief) was seen in 1 patient (3.8%). **Conclusion:** *Anutaila Nasya* reveals encouraging results then *Keshamitra Yoga* by providing relief in *Keshpatana* and by reducing the hair fall significantly.

INTRODUCTION

Beautiful, long and silky hairs of the scalp add plus factor to the personality. In today's fast world, there is a race for cosmetics, changing life style or more specifically westernized culture and unhealthy dietary habits has made the hair either turn grey at prematurity or to fall down. Changing lifestyle, sleep disturbances, systemic diseases, medications and stressful life also contribute to it and due to exposure to sunlight, high TDS level in water and pollution

worse the health of hair. Due to all these reasons one out of two women suffering from hair problem. *Keshpatana* prevalence is approximately 1.7% of the world population and in India up to 40% of men and 25% of women. Hair fall has been described in all the Ayurvedic literatures as *Khalitya*. It has been included in *Shiroroga* by *Acharya Charaka & Ashtanga Hridayakar*. *Sushrut Samhita*, *Ashtangsamgraha*, *Madhav Nidana* and *Yoga Ratnakara*, has included *Khalitya* diseases under *Kshudraroga*. If we take Junk food and mis-combination of food -*Akalabhajan*, over eating-*Adhayashana*, spicy and oily food -*Ushana*, *Tikshna Ahara* etc. All the above factor and malnutrition, poor hygiene of sleep, stress and pollution play major role in *Rakta Dusti* which leads to especially *Keshpatan* (hair falling). *Pitta* along with *Vata* by involving the roots of hair (*Romakoopa*) causes

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fall of hair's and thereafter *Kapha* along with *Rakta* obstructs the channel of *Romakoopa* leading to the restriction of the regeneration of the hair and this condition is known as *Indralupta*, *Khalitya* or *Ruhya*^[2]. The production of first *Dhatu* (*Rasa Dhatu*) in qualitative form is responsible for the production of next (*Uttarouttar*) *Dhatu* and upto *Sukra Dhatu*. The nutrients required for *Asthi Dhatu* are responsible for the quality and strength of hair¹. In Ayurvedic terms, hair fall is coined out as '*Keshpatana*'. In Ayurveda, there are various treatment modalities like *Shiroabhyanga*, *Lepana*, *Shodhan*, *Nasya*, *Rasayana*, among them *Nasya* has been given much importance. *Acharyas* have suggested *Nasya* as the best treatment for all the *Urdhvajatrugataroga*^[3]. *Nasa* is considered as a route for drug administration to *Shirah Pradesh*. *Acharyas* have also said that *Nasa* is connected with the *Shirah* and the choice of management for the same is *Nasya*. Administration of *Nasya* in proper time with proper method keeps eyes, ears and nose of the person healthy. The hair of that person does not turn grey and one does not suffer from hair falling problem, instead hair growth is also accelerated.

AIM AND OBJECTIVE

Evaluation of the combined effect of *Anutaila Nasya* and *Keshamitra yoga* in *Keshpatana* in comparison of only *Keshamitra yoga*, to evaluate the efficacy of *Nasya Karma* in management of *Keshpatana*.

MATERIAL AND METHOD

Plan of Study

Selection of Patients: The patients having *Keshpatana* (hair fall) and who fulfilling the criteria of diagnosis and inclusion were randomly selected 60 patients irrespective of their sex, caste from the O.P.D./I.P.D. of total hospital, U.A.U, Gurukul Campus, Haridwar. The patients were randomly divided in to two groups; 30 patients in each group.

The clinical study was started after the approval of institutional ethics committee no. UAU/GC/IEC/ 2019/6

Selection of Drug

1. *Anutaila Nasya*^[4]
2. *Keshamitra Yoga*

Type of Study: Open labelled randomized comparative clinical trial.

Duration of Study - 90 days

Drug Trial Schedule

Group A

1. *Anutaila* (Ch.Su.5)

Dosage- *Nasya Karma* was performed with prepared *Anutaila* in the dosage 10 drops in each nostril for a period of 7 consecutive days in 1st course, 16 drops in 2nd course and 20 drops in 3rd course with three days gap between each course.

Duration - 30 days

2. *Keshamitra Yoga* (Hypothetical Compound)

Dosage- 5gm BID with lukewarm water after meal.

Duration- 30 days

Administration of *Nasya Karma*

Purva Karma (Preparation of the Patient)^[5]

1. After voiding the natural urges, patient was advised to come in the morning around 9am.
2. The patient was advised to lie down on *Nasya* table with head low position.
3. *Abhyanga* was done on face and neck with *Murchita Tila Taila* followed by *Nadi Sweda*.
4. Massage with linear thumb movements over forehead, eyebrows, nose, chin and maxillary area.
5. Massage in circular movements with palm in both clock wise and anti-clock wise direction over cheek, temporal region.
6. Massage by moving flat of the palms from anterior of the neck to the base of the neck to the mandible.
7. *Nadi Sweda* was done to the face and neck by covering the eyes with cotton pads for 3-5 minutes.

Pradhana Karma ^[6,7, 8]

Patient was advised to lie down in supine position with head lowered backwards up to about 45°. *Anutaila* was made lukewarm by indirect heating source. By standing at the head end of the table, the tip of the patient's nose was raised with the left thumb. *Anutaila* was instilled in each nostril with the vial or dropper, after instilling the oil in one nostril, the other nostril was closed with a finger and the patient was advised to take deep inhalation. The same was repeated in another nostril.

Paschat Karma

The patient was asked to spit out medicine which has come in the throat. *Swedana* was repeated with *Nadisweda* and the forehead, palms and soles of the patient were massaged gently. After that *Dhumapana* was done with *Haridra* and *Ghrta*. The patient was advised to take rest for 15 minutes.

Group B

Only *Keshamitra Yoga* (Hypothetical Compound) was given.

Dosage- 5gm BD with lukewarm water after meal for one month.

Duration - 30 days

Keshamitra yoga contains the power of *Amalaki*, *Haritki*, *Bibitaki*, *Yashtimadhu*, *Bhringraj*, *Mandukparni*, *Neem Patra*, *Guduchi*, *Haridra*.

Collection of drugs

Anutaila and *Keshmitra yoga* contents were taken from Druga Pishai Centre, near Dakshamandir, Haridwar.

Assessment & Follow Up

They were assessed after two months of the trial in each the groups.

Inclusion Criteria

- Patients having classical signs and symptoms of *Keshpatana* (more than 100 hair fall/ day)
- Patients within age group of 16 to 40 years of either sex.
- Patients who are *Yogya* for *Nasya Karma*.

Exclusion Criteria

- Patients who have diseases like alopecia totalis, tineu capitis, folliculitis devaculans and *Arunshinka*, *Indralupta*.
- Patients suffering from any chronic systemic disease.
- Patients who are unfit for *Nasya Karma*.

Criteria for Assessment**Subjective parameters**

1. *Keshpatana* (Hair fall)
2. *Darunaka* (Dandruff)
3. *Kesh-Rukshata* (Dryness of Hair)
4. *Shiro Kandu* (Itching)

Objective parameters

1. *Prakriti Parikshana*
2. Examine scalp for inflammation (redness and scale)
3. Hair pull test to see if hairs come out at roots
4. Hair shedding by test
5. 60-sec comb test

6. Daily hair count test

7. Splitting of hairs

Investigations

- Routine hematological investigations to assess the general condition of patients as well as to exclude the pathological conditions.
- Stool routine and microscopic examination, if necessary.

Criteria for Withdrawal

1. Personal matter
2. Intolerable side effects
3. Health and Safety
4. Physical debilitation
5. Adverse drug effect

Overall assessment-

It was done on following basis;

Complete relief (100% relief)

Marked relief (≥ 75 -99% relief)

Moderate relief (≥ 51 -74% relief)

Mild relief (≤ 50 % relief)

No relief (0% relief)

Clinical Assessment

The changes observed in the sign and symptoms and tests were assessed by adopting suitable scoring method and the objective signs by using appropriate clinical tools. The details of scoring pattern adopted for the assessment of clinical sign & symptoms and tests are as follows.

Criteria for Assessment Hair Fall	
Symptoms	Grading
No hair fall or absent	0
Mild hair fall (Hair fall on combing)	1
Moderate hair fall (Hair fall on washing)	2
Severe hair fall (Hair fall on mild pulling, during sleep)	3
Roughness	
Smooth hair surface	0
Occasional rough surface	1
Slight rough surface	2
Very rough surface	3
Splitting of hair ends	
No visible	0
Splitting ends visible with difficulty	1
Splitting ends visible easily	2
Dandruff (Darunak)	
No dandruff or absent	0
Dandruff seen on scalp only	1
Dandruff visible on scalp and hair	2
60-sec comb test (Hair Count)	
Below 50	0

51-100	1
101-150	2
151-200	3
Above 200	4
Daily hair count test	
Below 50	0
51-100	1
101-150	2
151-200	3
Above 200	4
Shedding by	
No hair fall	0
Roots	1
Middle	2
Both	3
Scalp itching (<i>Shirokandu</i>)	
Absent	0
Mild (coming 1-2 episode in a day)	1
Moderate (coming 3-4 episode in a day)	2
Severe (coming more than 5 episodes in a day)	3
Examine scalp for inflammation (redness and scale)	
No inflammation and scales	0
Mild redness	1
Redness with pain and scales	2
Hair Pull Test	
Hair pulled but no hair from root	0
4-6 or fewer hair shed	1
More than 6	2

OBSERVATION AND RESULT**Table 2: Effect of Anutaila Nasya and Keshmitrayoga in Symptoms & Tests of Keshpatana in Group A (Wilcoxon Matched-Pairs Signed Rank Test)**

S.No	Symptoms and tests	N	Mean		Mean Diff.	SD±	SE±	P Value	S
			BT	AT					
1	Hair shedding by	26	2.000	0.5385	1.462	0.7060	0.1385	<0.0001	ES
2	Hair pull test	26	1.462	0.4231	1.038	0.5277	0.1035	<0.0001	ES
3	Scalp inflammation	13	1.308	0.3846	0.9231	0.4935	0.1369	0.0010	ES
4	Scalp itching (<i>Shirokandu</i>)	15	0.7692	0.1923	0.576	0.7027	0.1378	0.0005	ES
5	60-s hair comb test	26	2.731	0.1923	2.538	0.5818	0.1141	<0.0001	ES
6	Daily hair count	26	3.385	0.8462	2.538	0.8593	0.1685	<0.0001	ES
7	Dandruff (<i>Darunaka</i>)	10	1.308	0.2308	1.077	0.9767	0.9767	<0.0001	ES
8	Splitting of hair ends	12	1.000	0.6923	0.3077	0.5491	0.1077	0.0156	S
9	Roughness	22	1.885	0.6923	1.192	0.8953	0.1756	<0.0001	ES

Effect of *Anutaila Nasya* and *Keshmitra yoga* combination was extremely significant in symptoms like hair shedding by roots, scalp inflammation, hair pull test, scalp itching (*Shirokandu*), 60-s hair comb test, daily hair count, dandruff (*Darunaka*) and roughness ($P < 0.001$). Followed by significant results in splitting of hair ends. Statistically there was no insignificant result seen.

Table 3: Effect of Keshmitrayoga in Symptoms & Tests of Keshpatana in Group B (Wilcoxon Matched-Pairs Signed Rank Test)

S.No	Symptoms and tests	N	Mean		Mean Diff.	SD±	SE±	P Value	S
			BT	AT					
1	Hair shedding by	26	1.923	0.6154	1.308	0.679	0.1332	<0.0001	ES
2	Hair pull test	26	1.385	0.6154	0.7692	0.6516	0.1278	<0.0001	ES
3	Scalp Inflammation	14	0.6538	0.4615	0.1923	0.419	0.07882	0.0625	NS
4	Scalp itching (<i>Shirokandu</i>)	06	1.308	1.000	0.377	0.6177	0.1211	0.0273	S
5	60-s hair comb test	26	2.462	1.000	1.462	0.907	0.177	<0.0001	ES
6	Daily hair count	26	3.346	2.038	1.308	1.050	0.2058	<0.0001	ES
7	Dandruff (<i>Darunaka</i>)	10	1.154	0.7692	0.386	0.6373	0.1250	0.0078	VS
8	Splitting of hair ends	03	1.731	1.462	0.2692	0.4523	0.08871	0.0156	S
9	Roughness	05	1.231	0.6538	0.5769	0.6433	0.1262	0.0002	ES

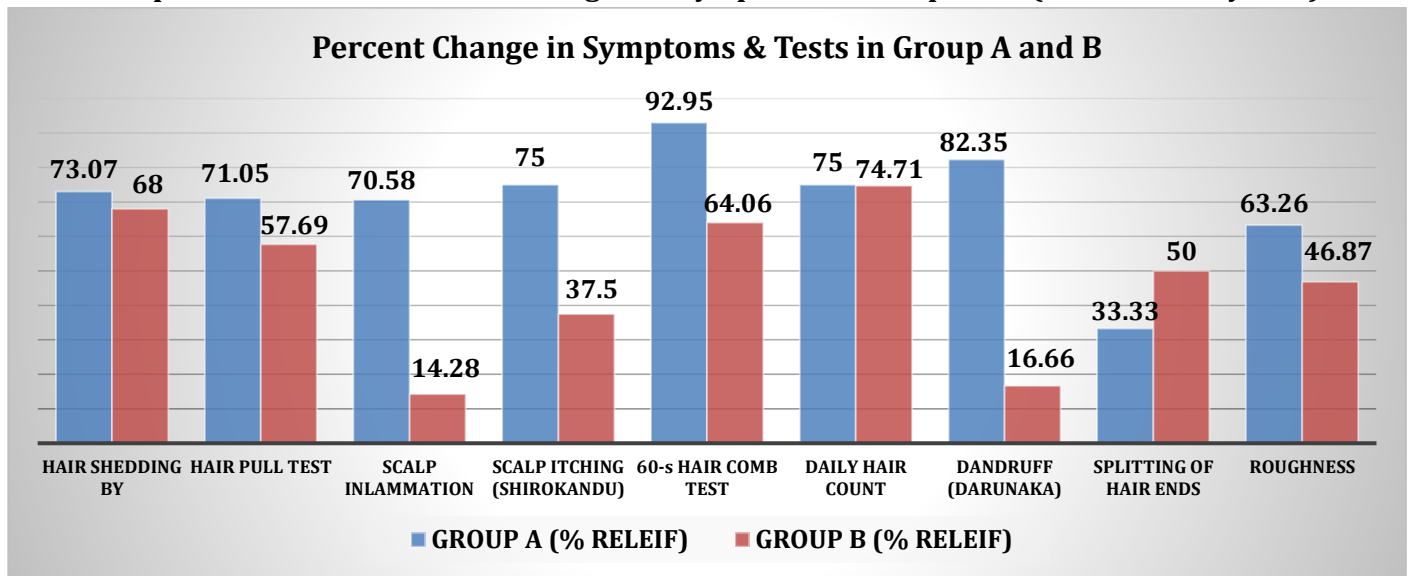
In Group B, extremely significant results were found in hair shedding by roots, hair pull test, 60-s hair comb test, daily hair count and roughness ($P < 0.001$). Very significant results were observed in *Darunaka* ($P < 0.05$). Significant result was seen in *Shirokandu* and splitting of hair ends ($P < 0.01$). No significant result was seen in scalp inflammation.

Table 4: Percent Change in Symptoms & Tests in 52 Patients in Group A & B (Total BT- Total AT)*100/ Total BT

S.No	Symptoms of Keshpatana	Group A (% Relief)	Group B (% Relief)
1	Hair shedding by	73.07	68
2	Hair pull test	71.05	57.69
3	Scalp inflammation	70.58	14.28
4	Scalp itching (<i>Shirokandu</i>)	75	37.5
5	60-s hair comb test	92.95	64.06
6	Daily hair count	75	74.71
7	Dandruff (<i>Darunaka</i>)	82.35	16.66
8	Splitting of hair ends	33.33	50
9	Roughness	63.26	46.87

The maximum improvement was observed in 60-s hair comb test (92.95%) in Group A, where as in Group B the maximum improvement (74.41%) was seen in daily hair count. In Group A 82.35% improvement recorded in dandruff, 71.05% in hair pull test, 75% in scalp itching and daily hair count. The improvement in hair shedding by roots obtained 73.07%, 70.58% in scalp inflammation, in roughness in hair 63.26% and 33.33% improvement was observed in splitting of hair ends.

In Group B hair shedding by test showed 68% improvement and 60-s hair comb test, hair pull test, splitting of hair ends showed 64.06%, 57.69%, and 50% respectively. The 46.87% improvement seen in roughness of hair, 37.5% improvement seen in scalp itching and there was 16.66% and 14.28% relief in symptoms like dandruff and scalp inflammation respectively.

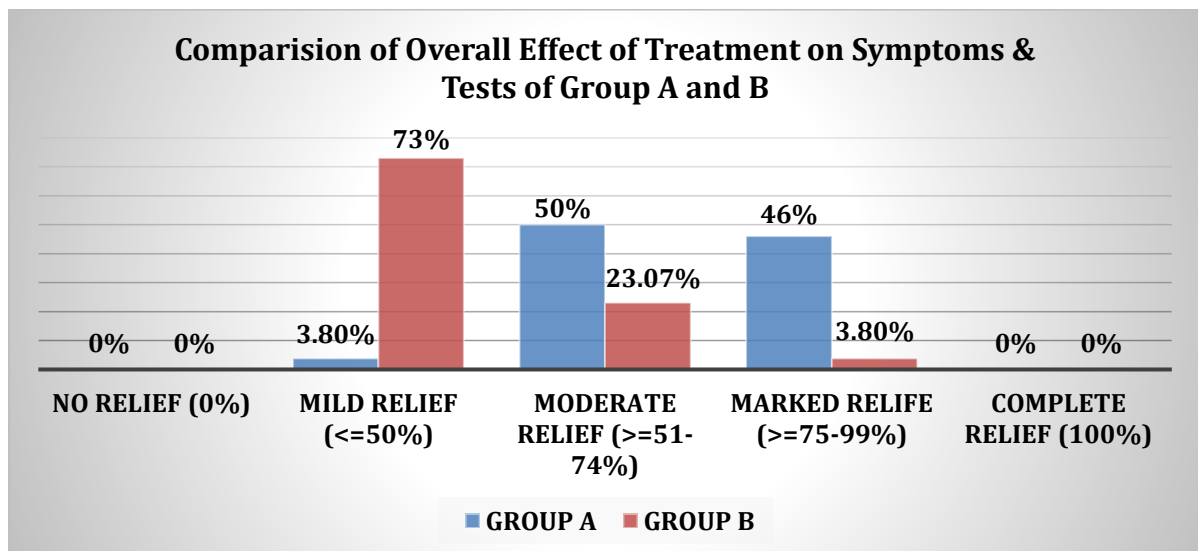
Comparative effect of treatment of sign and symptoms in Group A & B (Mann-Whitney Test)

On comparing both the groups statistically using Mann-Whitney Test tests like 60-s hair comb test and daily hair count showed extremely significant result (P value <0.001). The overall effect of treatment in group A (*Anutaila Nasya* and *Keshmitrayoga*) found statistically extremely significant in context of hair shedding by, hair pull test, scalp inflammation, scalp itching (*Shirokandu*), 60-s hair comb test, daily hair count, dandruff (*Darunaka*) and roughness. The overall effect of treatment in group B (*Keshmitrayoga*) has been observed statistically extremely significant in respect of Hair shedding by, Hair pull test, 60-s hair comb test, daily hair count and roughness.

Table 5: Comparison of Overall Effect of Treatment on Symptoms & Tests of Group A & B

Overall Assessment	No. of Patients (Group A)	Group A	No. of Patients (Group B)	Group B
No Relief (0%)	Nil	0%	Nil	0%
Mild Relief ($\leq 50\%$)	01	3.8%	19	73%
Moderate Relief ($\geq 51-74\%$)	13	50%	06	23.07%
Marked Relief ($\geq 75-99\%$)	12	46%	01	3.8%
Complete Relief (100%)	Nil	0%	Nil	0%

On the basis of the specific scoring pattern adopted, the total effect of therapy had been carried out which shows that in Group A marked relief ($\geq 75-99\%$ relief) in 12 patients (46.15%), moderate relief ($\geq 51-74\%$ relief) was seen in 13 patients (50%) and 1 patient (3.8%) showed mild relief. In group B, 19 patients (73.07%) showed mild relief, 6 patients (23.07%) showed moderate relief, and marked relief ($\geq 75-99\%$ relief) was seen in 1 patient (3.8%).



DISCUSSION

Role of Nasya Karma in management of Keshpatana

Keshpatana does not cause any disability in the body but look wise it is a little bit embarrassing and quite frustrating condition. *Acharya Sushruta* explained the disease *Keshpatana* in *Kshudra Roga*. The disease is caused by mainly *Vata Pitta Dosha*. *Pitta* along with *Vata* by involving the roots of hair (*Romakoopa*) causes falling of hair and *Kapha* along with *Rakta* obstructs the channels of *Romakoopa* leading to the stoppage of the regeneration of the hair and this condition is known as *Indralupta*, *Khalitya* or *Ruhya*.

Nasya karma is specially indicated in *Uradhava Jatrugata Vyadhi*. The role of *Nasya karma* in *Keshpatana* can be understood by the fact that, the *Vagbhata* has included this disease in the group of '*Kapalgat Vyadhi*'. This is in addition to the number of *Chikitsasutras* of *Khalitya* stated by various *Acharyas*. *Anutaila* has been mentioned for *Nasya* in *Charak Sutrasthana* 5th chapter. *Nasya* is considered as a best karma for *Uradhava Jatrugata Vyadhi*. *Anutaila* consists of 27 ingredients (*Chandna* to *Vanya*) and the *Dravadravyas* used are simple water in place of *Varshajala*, *Tilataila* and *Ajadugdha*. *Anutaila* possess a good spreading capacity in micro channels and provides *Brimhana*, *Doshashamana*, *Indriyabala*. This is indicated in *Pratishyaya*, *Valita*, *Palita*, *Ardita*, *Apasmara*, *Unmada* and possess *Keshya*, *Balya* and *Rasayana* properties.

Probable Mode of Action of Keshamitra Yoga

This formulation contains the drugs – *Amalaki*, *Bibitaki*, *Haritki*, *Bhringraj*, *Mandukparni*, *Yashtimadhu*, *Neem Patra*, *Haridra* and *Guduchi*. These drugs have different properties, which are collectively helpful in promoting the strength and quality of hair. *Triphala* (*Haritaki*, *Bibhitaki*, *Amalaki*) have great rejuvenating property and it is a good source of vitamin C and calcium. *Yashtimadhu* is good *Vata Pitta Shamaka* and *Keshya* (strengthen hair) drug. *Neem Patra* and *Haridra* are good *Rakta Prasadana* and *Vata Pitta Shamaka* drugs. Thus, help to treat dandruff, skin lesions and produce good quality *Rasa Rakta Dhatu*. *Guduchi* is a proved potent immunomodulator drug, *Pitta Shamaka* and *Rasayana*. All the drugs in *Keshamitra yoga* improve blood circulation and provide nutritive

supplements for strength and growth of hair and in this way helps to reduce hair fall.

CONCLUSION

The *Nasya Karma* is indicated in Ayurveda to follow as regimen especially for health of body parts above the clavicle and hair. Present study supports this concept by revealing the efficacy of *Anutaila Nasya* as an effective medication to combat diffuse hair loss (*Keshpatana*). *Anutaila Nasya* not only helpful to improve the strength and quality of hair but boost the growth of hair and stops the degeneration of hair follicles. A hypothetical compound *Keshmitrayoga* is very useful drug to check the hair fall as its contents possess immunomodulator, anti-inflammatory and *Vata Pitta Shamaka*, *Brihana* effect.

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