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COMPARATIVE CLINICAL STUDY ON MANAGEMENT OF *KHALITYA* WITH *TAILA* PREPARED FROM *KESHYA* DRUGS COMBINATION

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ABSTRACT

Background: Hair loss is a cosmetic issue that has a psychological impact on the patient. Hair fall is silent but devastating problem which may occur to a healthy person also. Millions of the people worldwide suffer from hair fall. Various factors like sleep disturbances, stress, various systemic disorders, changing lifestyle, unhealthy dietary habits and medications contribute in occurrence of *Khalitya*. According to Ayurveda, it can be co-related to *Khalitya*. Aim: To evaluate efficacy of *Shiroabhyanga* with *Gunja Taila* with or without oral therapy. Material and Methods: In group A, 14 patients had completed the treatment and In group B, 16 patients completed the treatment. Assessment was done based on objective and subjective criteria. Cessation of hair fall was counted as a main feature to assess the effect of therapy. Other associated symptoms like *Kesha Rukshatva*, *Darunaka*, *Keshabhoomi Daha*, *Keshbhoomi Kandua*, *Kesh Kanthiya*, *Kesh Tantutva* were also considered. To facilitate the statistical analysis of the effect of therapy a scoring system was adopted. **Result:** In group A, 73% relief was observed in *Khalitya*, and 80% relief in *Darunaka* whereas in Group B, 67% relief

was observed in *Khalitya*, and 86% relief in *Darunaka*. Overall effect of the therapy shows that in only *Shiro-abhyanga* group 14% patients were cured, 50% patients markedly improved, 21% patients moderately improved while 14% patients remained unchanged, while in *Shiro-abhyanga* with oral group 19% patients were cured, 69% were markedly improved, 13% showed moderate improvement. **Conclusion:** *Shiroabhyanga* with *Keshya* drug combination as a *Rasayana* therapy is effective in the management of *Khalitya*.

KEYWORDS: *Gunja Taila*, *Keshya* drugs, *Khalitya*, *Shiroabhyanga*,

1 .INTRODUCTION:

In *Ayurveda* Hair fall or loss of hair termed as *Khalitya*.ⁱ Acharya Sushruta classified it under the *Kshudraroga*ⁱⁱ and Acharya Vagbhata under the *Shiroroga*ⁱⁱⁱ. According to modern medicine hair fall is also known as Alopecia or baldness which refer to partial or complete loss of hair especially from the scalp. Hair loss is a cosmetic issue that has a psychological impact on the patient. Hair loss affects millions of people throughout the world

The incidence of *Khalitya* is increasing by day by day.^{iv} According to a poll conducted in India, up to 40% of males and 25% of women in the country suffer from *Khalitya*. It is a condition that progresses slowly. It is very common in youngsters too; various factors like sleep disturbances, stress, various systemic disorders, changing lifestyle, unhealthy dietary habits and medications contribute in occurrence of *Khalitya*.^v

Khalitya is essentially a *TridoshjanyaVyadhi* with *Pitta* dominance, i. e. *Raktadosha* combines *Vata*, *Pitta*, and *Kaphadoshas*. *Rasa*, *Rakta Mamsa*, and *Asthivaha Srotas* are all involved in the pathophysiology of *Khalitya*. In *Ayurveda* there is *Abhyantara* and *Bahya Chikitsa* described for the treatment of *Khalitya*.

Khalitya in younger age is increasing by leaps and bounds in this age and an effective as well as long lasting treatment is the need of the hour. This study was carried out to evaluate the efficacy of *Shiroabhyanga* with *Keshya* drug combination as a *Rasayana* therapy in the management of *Khalitya*.

3.MATERIAL AND METHOD:

Source of data - Patients attending the O.P.D and I.P.D of S.G.M.P.G. Ayurvedic College Saheri, Ghaziapur, fulfilling the criteria of the disease were selected and randomly distributed following therapeutic groups irrespective of their age, sex, religion, etc.

a) Inclusion Criteria: Patients other than those who were excluded and coming within age limit of 15 to 45 years were included without any bar of caste, sex, religion and occupation.

b) Exclusion Criteria:

Patients whose age is less than 15 and above 45 years. Patients who have been diagnosed to have local disease to have local disease like *Alopecia areata*, *Alopecia totalis*, *Tinea capiti*, *folliculitis decalvans* and in *Ayurvedic* terms patients of *Arushkara*, *Indralupta*.

Patient suffered from any severe systemic disease is excluded. Necessary steps will be taken to exclude other condition as per facilities available in the institute.

METHOD

It is an Open labeled, Randomized clinical study. The registered patients were divided into two groups.

Group A (<i>Gunja Taila</i>)	Group B (<i>Keshya</i> drugs combination along with <i>Gunja Taila</i>)
<i>Gunja Taila</i> for <i>Moordha Taila</i> (massage of hair oil in scalp) in the dose of 15ml/day for the duration of four weeks.	<i>Keshya</i> drugs combination in the dose of 4gm/day in two divided doses for the duration of 4 weeks along with <i>Gunja Taila</i> in above mentioned dose and duration. Anupana: <i>Kshira</i> (Milk) Kala: <i>Prataha</i> (morning) and <i>Ratri Kala</i> (night)
10 gram of herbal hair pack for washing hairs thrice a week.	10 gram of herbal hair pack for washing hairs thrice a week.

Follow up: After the completion of therapy, the patients were asked to come weekly for two months for check-up. It was to be noted whether the relief provided by therapy was permanent or there was any recurrence.

ASSESSMENT CRITERIA

To facilitate the statistical analysis of the effect of therapy, scoring system was adopted. Cessation of hair fall was counted as a main feature to assess the effect of therapy. Other associated symptoms like *Kesha Rukshatva*, *Darunaka*, *Keshabhoomi Daha*, *Keshbhoomi Kandua*, *Kesh Kanthiya*, *Kesh Tantutva* were also considered, but main emphasis was laid on the stoppage of hair fall.

Gradation of Hair Falling

Symptoms	Gradation
Absent	0
Mild (hair fall on washing)	1
Moderate (hair fall on combing)	2
Severe (hair fall on simple strengthening)	3

Gradation of microscopic examination of hair root and hair shaft

Spores and Hyphae	Gradation
No spores or hyphae	0
Occasional fungal and bacterial spores or hyphae	1
Few fungal and bacterial spores or hyphae	2
Many fungal and bacterial spores or hyphae	3

Gradation of roughness of hair surface

Roughness	Gradation
Smooth hair surface	0
Occasional rough hair surface	1
Slight rough hair surface	2
Rough hair surface	3

Criteria For Assessment of Overall Effect

Overall effect of the therapy was assessed in terms of complete remission, marked improvement, moderate improvement, mild improvement and improvement unchanged by adopting the criteria:

TABLE 1: CRITERIA FOR ASSESSMENT OF OVERALL EFFECT.

Complete remission	100% relief in Chief complaints and associated symptoms no recurrence during follow up study have been considered as complete remission.
Marked improvement	More than 75% improvement in chief complaints and associated symptoms was recorded as marked improvement
Moderate improvement	50 - 75% improvement in chief complaints and associated symptoms was recorded as moderate improvement
Mild improvement	25 - 49 % improvement in chief complaints and associated symptoms was considered as mild improvement
Unchanged	Less than 25% reduction in chief complaints and associated symptoms was noted as unchanged.

Statistical analysis: The information gathered on the basis of above observations was subjected to statistical analysis. The Wilcoxon's signed-rank test was carried out for all non-parametric data to analyse the effect of individual therapy in the both groups.

4. OBSERVATIONS:

Total 20 patients were registered in Group A, amongst them 14 patients had completed the treatment and 6 left against medical advice. In group B, out of 19 patients, 16 patients completed the treatment while rest of the 3 patients left against medical advice.

Present illness: Maximum number of the patients (38.46%) were having below 1 year chronicity, 28.21% were having 1-2 years, 17.95% were having 2-3 years and underline 15.38% patients were having 3-4 years chronicity. It was found that 87.18% of the patients had positive family history while only 12.82% were observed in negative family history. Maximum number of patients i.e. 61.54% were sentimental, while 12.82% patients were anxious, whereas 10.25% each were of depressive and jovial nature and only 05.13% patients were found under the irritation.

Aaharaj, Viharaja, and Manasika Nidana: It can be observed that majority of the patients i.e. 79.49% were regular in time of taking their diet, while 20.51% patients were irregular. Majority of the patients i.e. 69.23% were taking *Katu Rasa* in their diet, while 61.53% had *Lavana Rasa*, 53.84% *Amla Rasa* and 30.77% had dominancy of *Madhura Rasa* in their routine diet. Maximum numbers of patients i.e.76.92% were taking *Kshara Pradhana Ahara*, followed by *Ruksha* in 69.23%, *Ushna* in 56.41% and *Laghu* in 51.28% patients. 79.48 % were of *Madhyama Koshta*, 12.82% of *Mrudu* and only 7.69% were of *Krura Koshta*. The majority of patients i.e. 84.61% were having *Prajagarana*. followed by 61.53% had *Divaswapa*, 51.28% had *Atapasevana* and 43.58% were having *Raja Sevana*. 64.10% had *Krodha* while 43.58% patients each had *Shoka* and *Bhaya*.

89.74% were addicted to tea while rest of the patients i.e. 7.69% were taking coffee. It was observed that 7.69% each were addicted to tobacco and *pan masala* while 5.13% patients were habituated to smoke. Observations shows that all the patients i.e. 100% were having the symptoms of *Asthivaha Srotodushti*, 89.74% patients were possessing symptoms of *Rasavaha Srotodushti*, 48.72% patients were having *Medovaha Srotasa* and 43.58% patients were having *Raktavaha Srotodushti*.

Kesha Pariksha - On considering the data of *Kesha Sparsha*, majority of the patients i.e. 48.71% had *Ruksha* hair, while 35.89% patients had *Snigdha* hair and only 15.38% had *Parusha Kesha*.

The data of *Kesha Akriti* shows that maximum numbers of patient 56.41% had *Samanya Akriti*, 25.64% *Alpa Akriti*, 10.25% *Kutula Akriti* and 7.69% *Sphutita Kesha Akriti*. Frequency of hair washing was observed once - twice in 61.54%, once in 17.95% and each of 10.25% in thrice and daily. It can be depicted that maximum numbers of patient (64.10%) were using shampoo as hair washer, while 30.77% of the patients were using soap and only 05.13% patients were having the habit of using crude drugs. On considering the type of water,

majority of the patients i.e. 35.90% had hot/hard water followed by 25.64% had cold/hard water, 23.08% had cold/soft and 15.38% hot/ soft type of water in their routine for the purpose of washing their hair.

Maximum numbers of patient (61.54%) were applying *Narikel Taila* in their hair, while 30.77% were having the habit of herbal medicines and only 7.69% were applying *Tila Taila* to their hair in their routine. Maximum numbers of patients i.e. 58.97% applied oil twice a week, while 17.95% patients applied oil once a week, whereas 12.82% patients applied oil thrice a week and 10.25% patients were applying oil daily in their routine. On considering the data of combing habit, 28.01% patients were having the habit of combing in wet hair and minimum 7.69% patients were having the habit of combing forcefully with their hair. Majority of the patients i.e. 38.46% were applying *heena* to their hair, followed by 7.69% egg, 5.13% colouring their hair and only 02.56% of the patients were applying conditioner in their routine of hair care. Maximum numbers of patients 89.74% had normal hair style while remaining patients i.e. 10.25% were clipping their hair. The severity of symptoms reported by the patients were of moderate degree in 28.20% and of severe degree in 71.70%. Maximum i.e. 100% patients were having *Vata Dushti*, while 69.23% were having *Kaphadushti* and 64.10% were having *Pittadushti*.

Observations shows that majority of the patients i.e. 56.42% had rough hair, 43.58% patients had smooth hair, 41.02% patients reported to have few spores in hair roots and shaft, 33.33% patients observed having many spores in hair roots and shaft and only 25.65% patients reported to have occasional spores in hair and root and shaft.

All the patients (100%) were observed in *Khalitya* and 74.36 % had the symptom of *Darunaka*.

Maximum number of patients e.g. 76.92% were suffering from *Kesha Rukshata*, 71.80% had *Shirahkandu*, 41.02% had *Keshabhumi Parushya*, 33.33% each were in *Kesha Tanutva* and *Keshabhoomi Daha*, 23.08% had *Keshabhoomi Toda* and lastly minimum i.e. 17.95% had *Kesha Kathinya*.

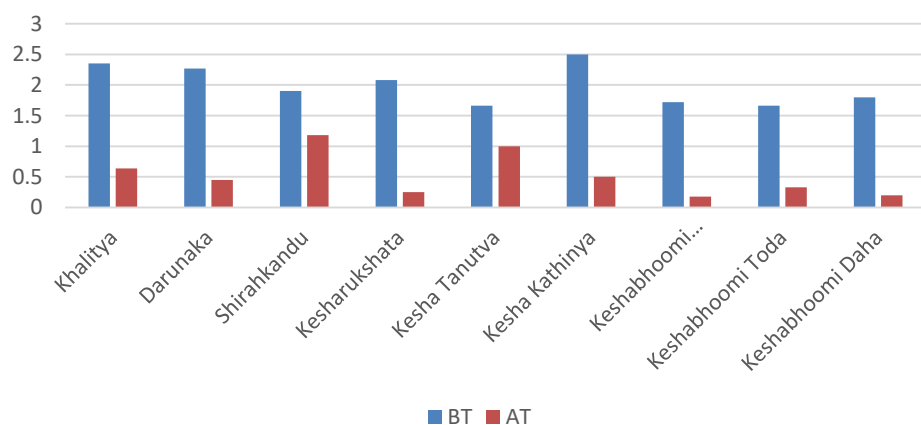
5. RESULT:

Table No. 1: Effect of therapy on chief complaints and associated symptoms in Group A (n=14, Paired T Test)

Parameters	N	BT	AT	Mean	% of Change	SD	SE	T	P	S
<i>Khalitya</i>	14	2.35	0.64	1.71	73.00	0.46	0.12	13.68	<0.001	HS
<i>Darunaka</i>	11	2.27	0.45	1.81	80.00	0.40	0.12	14.90	<0.001	HS
<i>Shirahkandu</i>	11	1.90	1.18	1.73	90.00	0.46	0.14	12.26	<0.001	HS
<i>Kesharukshata</i>	12	2.08	0.25	1.83	88.00	0.38	0.11	16.31	<0.001	HS

<i>Kesha Tanutva</i>	03	1.66	1.00	0.66	40.00	0.57	0.33	2.00	<0.05	S
<i>Kesha Kathinya</i>	02	2.50	0.50	2.00	80.00	0.00	0.00	0.00	-	-
<i>Keshabhoomi Parushya</i>	11	1.72	0.18	1.54	90.00	0.52	0.15	9.81	<0.001	HS
<i>Keshabhoomi Toda</i>	03	1.66	0.33	1.33	80.00	0.57	0.33	4.00	<0.001	HS
<i>Keshabhoomi Daha</i>	05	1.80	0.20	1.60	90.00	0.54	0.24	6.53	<0.001	HS

Graph No. 1: Effect of therapy on chief complaints and associated symptoms in Group A



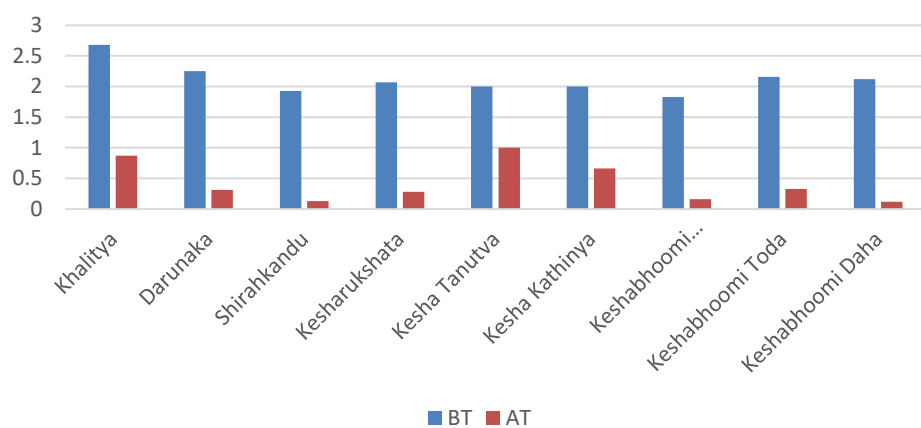
Effect of therapy on chief complaints and associated symptoms in Group B after applying paired t test showed that there was 90% of relief in *Shirahkandu*, *Keshabhoomi Parushya* and in *Keshabhoomi Daha* each, 88% of relief in *Kesha Rukshata*, 80% of relief in *Darunaka* and *Keshabhoomi Toda*, 70% of relief in *Khalitya*, which was statistically highly significant effect ($p < 0.001$) and 40% of relief in *Kesha Tanutva*, which was statistically significant effect ($p < 0.05$) while 80% relief in *Kesha Kathinya*.

Table No. 2: Effect of therapy on chief complaints and associated symptoms in Group B (n=16, Paired T Test)

Parameters	N	BT	AT	Mean	% of Change	SD	SE	T	P	S
<i>Khalitya</i>	16	2.68	0.87	1.81	67.00	0.40	0.10	17.98	<0.001	HS

<i>Darunaka</i>	16	2.25	0.31	1.93	86.00	0.57	0.14	13.50	<0.001	HS
<i>Shirahkandu</i>	15	1.93	0.13	1.80	93.00	0.67	0.67	3.87	<0.001	HS
<i>Kesharukshata</i>	14	2.07	0.28	1.78	86.00	0.57	0.57	0.15	<0.001	HS
<i>Kesha Tanutva</i>	3	2.00	1.00	1.00	50.00	-	-	-	-	-
<i>Kesha Kathinya</i>	3	2.00	0.66	1.33	66.50	0.57	0.33	0.33	<0.001	HS
<i>Keshabhoomi Parushya</i>	6	1.83	0.16	1.66	90.00	0.51	0.21	0.21	<0.001	HS
<i>Keshabhoomi Toda</i>	6	2.16	0.33	1.83	84.00	0.40	0.16	0.16	<0.001	HS
<i>Keshabhoomi Daha</i>	8	2.12	0.12	2.00	94.00	0.92	0.32	0.32	<0.001	HS

Graph No. 2: Effect of therapy on chief complaints and associated symptoms in Group B

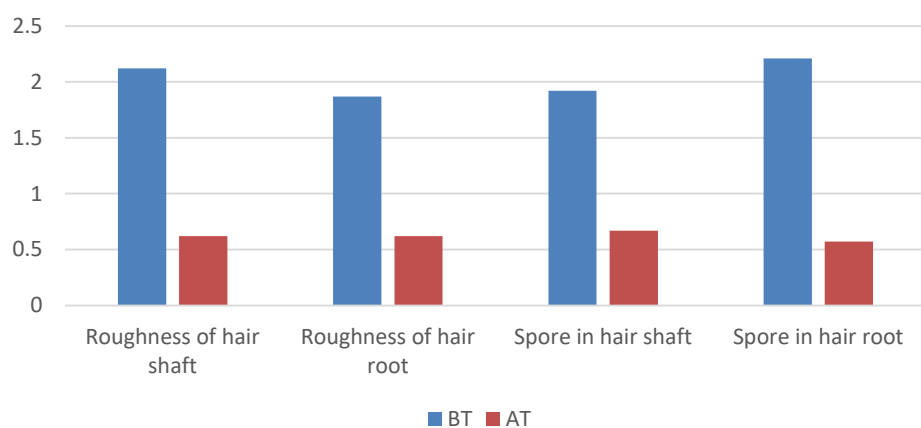


Effect of therapy on chief complaints and associated symptoms in Group B after applying paired t test showed that there was 94% of relief in *Keshabhoomi Daha*, 93% of relief in *Shirahkandu*, 90% of relief in *Keshabhoomi Parushya*, 86% of relief in *Darunaka* and *Kesha Rukshata* each, 84% of relief in *Keshabhoomi Toda*, 67% of relief in *Khalitya* and 66.50% of relief in *Kesha Kathinya*, which was statistically highly significant effect ($p < 0.001$) and 50% of relief in *Kesha Tanutva*.

Table No. 3: Effect of therapy on microscopic examination in Group A (n=14, Paired T Test)

Parameters	N	BT	AT	Mean	% of Change	SD	SE	T	P	S
Roughness of hair shaft	8	2.12	0.62	1.50	70.70	0.53	0.18	7.93	<0.001	HS
Roughness of hair root	8	1.87	0.62	1.25	66.80	0.46	0.16	7.63	<0.001	HS
Spore in hair shaft	14	1.92	0.67	1.35	70.00	0.63	0.16	8.01	<0.001	HS
Spore in hair root	14	2.21	0.57	1.64	74.00	0.63	0.16	9.70	<0.001	HS

Graph No. 3: Effect of therapy on microscopic examination in Group A

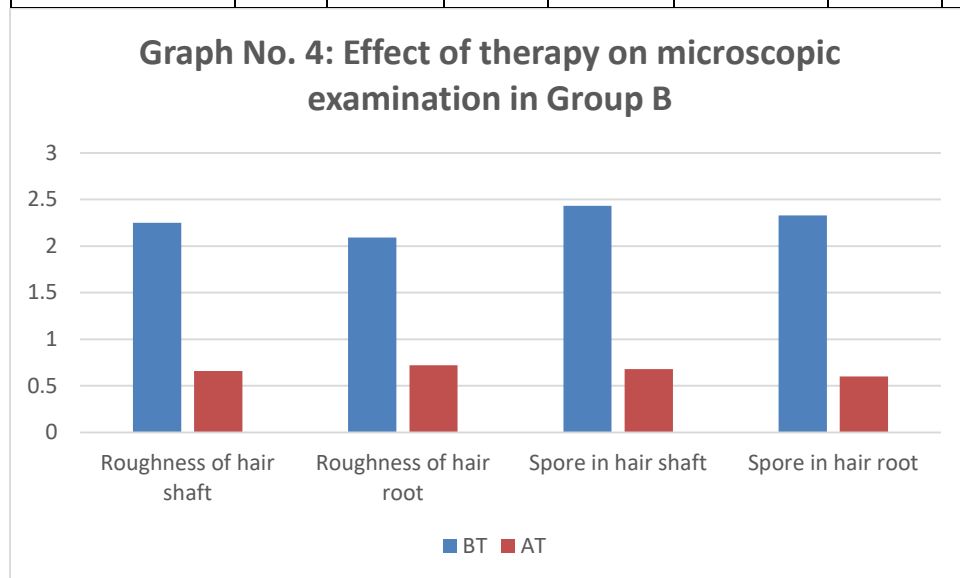


Effect of therapy on microscopic examination in Group A after applying paired t test showed that there was 74% of relief in spore in hair root, 70.70% of relief in roughness of hair shaft, 70% of relief in spore in hair shaft, while 66.80% of relief in roughness of hair root, which was statistically highly significant effect ($p < 0.001$).

Table No. 4: Effect of therapy on microscopic examination in Group B (n=16, Paired T Test)

Parameters	N	BT	AT	Mean	% of Change	SD	SE	T	P	S
Roughness of hair shaft	12	2.25	0.66	1.58	70.00	0.51	0.14	10.65	<0.001	HS

Roughness of hair root	11	2.09	0.72	1.36	65.00	0.67	0.20	6.70	<0.001	HS
Spore in hair shaft	16	2.43	0.68	1.75	72.00	0.44	0.11	15.65	<0.001	HS
Spore in hair root	16	2.33	0.60	1.73	74.00	0.45	0.11	14.66	<0.001	HS

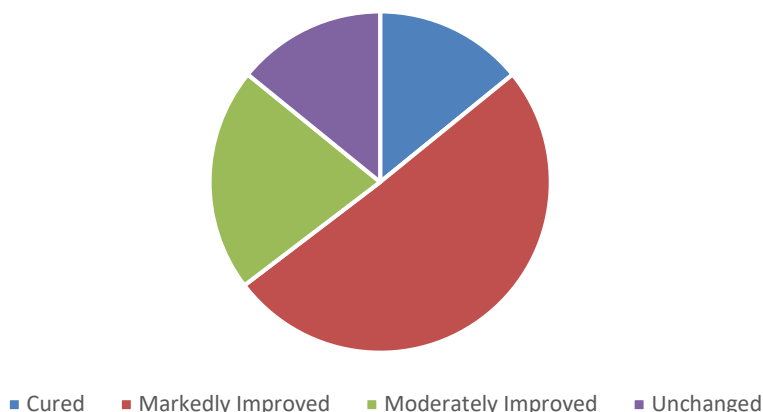


Effect of therapy on microscopic examination in Group B after applying paired t test showed that there was 74% of relief in spore in hair root, 72% of relief in spore in hair shaft, 70% of relief in roughness of hair shaft, while 65% of relief in roughness of hair root, which was statistically highly significant effect ($p < 0.001$).

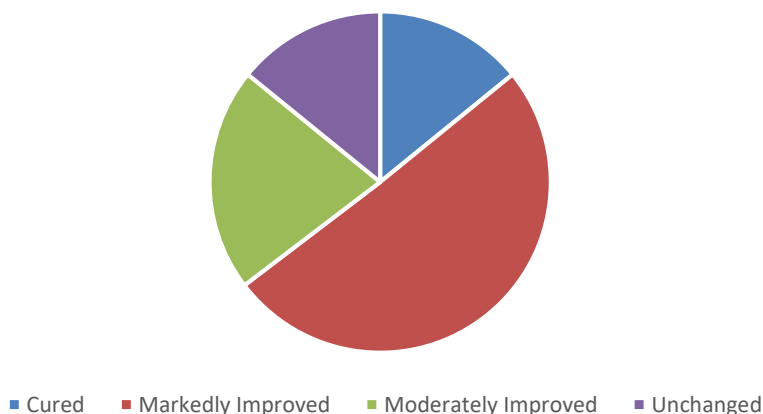
Table No. 5: Overall Effect Therapy

Result	Percentage of patient	
	Group A	Group B
Cured	14	19
Markedly Improved	50	69
Moderately Improved	21	13
Unchanged	14	00

**Graph No.5: Overall Effect Therapy
in Group A**



**Graph No. 6: Overall Effect Therapy
in Group B**



Overall effect of the therapy shows that in *Shiro-abhyanga* group (Group A) 14% patients were observed cured, 50% were markedly improved, 21% were moderately improved while 14% patients remained unchanged.

In *Shiro-abhyanga* with oral group (Group B) 19% patients were observed cured, 69% were markedly improved, 13% were moderately improved. Here no patient found in unchanged category.

6. DISCUSSION

Khalitya is essentially a *TridoshjanyaVyadhi* with Pitta dominance, i. e. *Raktadosha* combines *Vata*, *Pitta*, and *Kaphadoshas*. *Rasa*, *Rakta Mamsa*, and *Asthivaha Srotas* are all involved in the pathophysiology of *Khalitya*. In Ayurveda there is *Abhyantara* and *Bahya Chikitsa* described for the treatment of *Khalitya*.

Gunja Taila^{vi}- The ingredients of this recipe are *Gunja*, *Ela*, *Bhringaraja*, *Jatamansi*, *Shati*, *Kustha* and *Tila Taila*. These drugs are having *Madhura* (57%), *Katu* (71%), *Tikta* (85%), and *Kashaya* (57%) *Rasa*. *Ushna*

(71%) and *Sheeta* (28%) *Virya*. *Guru* (14%), *Laghu* (85%), *Snigdha* (28%), *Ruksha* (57%) and *Tikshna* (42%) *Gunas*, whereas *Katu* (71%) and *Madhura* (28%) *Vipaka*. *Tridosha-shamaka* (42%) and *Vata-kaphashamaka* (57%) property. The drugs are also having the other properties like *Keshya*, *Vishaghna*, *Jantughna*, *Daurgandhya-nashaka* and *Kandughna*. But as these constituents were prepared by the *Taila Paka Vidhi* according to “*Sanskaro Hi Gunantaradhanam*” their individual properties emerged into each other and emerges some new properties. As such, the *Taila* thus prepared had *Laghu* and *Snigdha* properties with *Madhura* and *Kashaya* and *Tikta* and *Katu Rasa* with *Madhura Vipaka* and *Ushna Virya* which was intended to have a *Tridosha-shamaka* effect. The *Laghu* and *Snigdha* properties would act on the vitiation of the *Kapha* and *Vata Dosha* whereas *Sheeta Virya* and *Madhura Vipaka* would act on *Pitta Dosha*. *Ushna Virya* and *Snigdha* property would act on the vitiation of *Kapha* and *Tikta Rasa*, *Sheeta Virya* and *Madhura Vipaka* would act on *Pitta Dosha*. The *Ushna Virya* and *Snigdhatva* would aid in liquefying the dried *Kapha* in the pores of the scalp locally clearing up the obstruction offered to the growth of new hairs. ^{viiiviii}

Mode of action of Shiro-Abhyanga:

Shrio-abhyanga^{ix}: The gentle massage improves blood circulation to *Kapala Pradesha*. The oxygen capacity of the blood can increase 10-15% by the procedure of massage with the help of indirectly or directly stimulating nerves that supply internal organs, the blood vessels of these organs dilate & allow more blood supply to them. The temperature created in the process makes patient to feel comfort. This heat causes the blood vessels to dilate to increase the blood circulation and promotes healing. The effect of pressure & the effect of heat produced, enhances the absorption of medicines through the skin.^x

Head Massage gives nourishment to all sense organs like eyes, ears, nose, tongue & skin. Massage enhances the skin condition by improving the function of the sebaceous glands which keep the skin lubricated, clean. Head massage has the effect of nourishment of hair roots, straightens the hair roots, hair & prevents excess hairloss & thickens the hair. It decreases dandruff, greying of hair.

Mode of action of Abhyanga in Modern view: Because of osmotic pressure, the internal fluids in the skin are subjected to move in the massage. The massage causes the mechanical hydrostatic pressure in the extracellular compartments, forceful expulsion from peripheral vessels causes splanchnic pooling of the body. Massage helps the fluid to enter into viscera, tissues & dilute the accumulated toxins. After massage, when it refills the peripheral vessels, the diluted toxins are brought into general circulation & expelled out via elimination procedures or *Shodhana*. It improves lymph circulation and its drainage in the body. Lymph exhibits large amount of amino acids- tryptophan.^{xi}

Thus, *Keshya* and *Rasayana* action of drugs enhance the nutritive beneficial effect on the hair. *Vishaghna*, *Kandughna* and *Jantughna* property removes the local infection and helps in checking the hair fall and thus help in ceasation of the further process of *Khalitya*.

7. CONCLUSION:

Shiroabhyanga with *Keshya* drug combination as a *Rasayana* therapy has statistically significant effect in the management of *Khalitya*. Overall effect of the therapy shows that in only *Shiro-abhyanga* group 14% patients were cured, 50% patients markedly improved, 21% patients moderately improved while 14% patients remained unchanged, while in *Shiro-abhyanga* with oral group 19% patients were cured, 69% were markedly improved, 13% showed moderate improvement. Thus, *Khalitya* can be managed successfully through *Ayurved* principles with the help of internal and external medications.

8. REFERENCE

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