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Comparative study of *Brahmi Ghrita Brimhana Nasya* and *Ashwagandha Churna* as adjuvant therapy in Stress associated with Hypothyroidism - Research Article

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ABSTRACT

Background: Hypothyroidism is a common thyroid disorder in thyroid gland didn't produce sufficient thyroid hormone. Hypothyroidism is a condition that can be attributed to *Agni Dushti*. *Agnimandya* causes *Kapha Vata Dosha Vriddhi* and *Pitta Kshaya* as a result. Prevalence of hypothyroidism in female is more common than male. **Aim:** To study the effect of *Brahmi Ghrita Brimhana Nasya* in comparison with *Ashwagandha Churna* in stress associated with Hypothyroidism. **Objectives:** To study the effect of *Brahmi Ghrita Brimhana Nasya* on DAS Scale-42. **Method:** The selected patients will be divided into two groups by using computer-generated random numbers. Group A - *Brahmi Ghrita Brimhana Nasya* given with dose of 8 *Bindu* in two sitting for seven days with gap of seven days. Group B - *Ashwagandha Churna* given with dose of 5gm OD for 28 days. **Results:** Both groups were highly significant on DAS score-42 in stress associated with Hypothyroidism.

Key words: Ayurveda, Dhatwagnimandhya, Dosha, Brahmi Ghrita, Nasya Karma, Ashwagandha Churna, Hypothyroidism

INTRODUCTION

Thyroxine (T4) and Triiodothyronine (T3) are two hormones produced by the thyroid gland (T3). These hormones are primarily responsible for metabolic regulation and are necessary for the appropriate development and differentiation of all body cells.^[1]

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Hypothyroidism worldwide is about 4-5%.^[2] Thyroid disorder may be linked with increased perceived stress.^[3] Stress has a profound impact on the development of many psychopathologies, affecting numerous physiological processes, such as endocrine, immune, neural systems and heart disease.

Patients with hypothyroidism are more prone to develop stress, anxiety, depressive symptoms, and these mental disorders may be also accompanied by various subtle thyroid abnormalities.^[4]

In *Ayurveda* we can't directly correlate Hypothyroidism as a whole disease, signs and symptoms of the disease can be seen in *Ayurvedic* texts.

We can correlate these mental disorders with *Vata Nanatmaj Vikar "Vishad"*^[5] and *Avsaada* in *Ayurveda*. And in *Ayurvedic* text *Rogavardhananam* called for *Vishad*.^[6]

“विषादोरोगवर्धनानां” So if we treat stress (*Vishad*) then the disease will not get worse and will not cause any other complications and also will not hamper our day to day life.

Sushruta opines that a healthy person is one whose body, mind, and senses are in harmony and whose *Doshas* are in harmony, with a healthy appetite, regularly functioning *Dhatu*s, and balanced evacuation of *Malas*.^[7] *Charaka* posits that health is achieved when one's mental and bodily processes are harmoniously intertwined.^[8]

In present study we choose *Brahmi Ghrita Brimhana Nasya* as adjuvant therapy in stress associated with hypothyroidism in comparison to *Ashwagandha Churna*.

Brahmi^[9] shows *Vata Kaphahar*, *Medhya* and *Rasayan* properties. Also shows tranquilizing, smooth muscle relaxant, nootropic, nerve tonic, adaptogenic, anti-stress, anxiolytic, anti-depressant effects. Other drugs of *Brahmi Ghrita* are *Vacha*,^[10] *Kushtha*,^[11] *Shankhapushpi*^[12] these are also effective in stress, anxiety and depression.

Ghrita has *Vata Shamak*, *Medhya*, and *Rasayan* properties. *Ghrita* promotes all three aspects of mental functioning –learning, memory and recall.

Nasya we choose here as a *Panchakarma* procedure because *Acharaya Charka* in *Sidhisthan*^[13] says *Nasa* is the entrance gate of the *Shira*, “द्वारं हि शिरसो नासा”, also *Vagbhata* quoted it.^[14]

In *Ayurvedic* texts *Brahmi Ghrita Brimhana Nasya* is indicated in *Mansika Vikar Apasmara Chikitsa*. Therefore, in the present study we choose it to treat mental disorders like stress, anxiety, and depression and improve general well-being as adjuvant therapy in stress associated with hypothyroidism.

AIM AND OBJECTIVES

Aim - To study the effect of *Brahmi Ghrita Brimhana Nasya* in comparison with *Ashwagandha Churna* in stress associated with Hypothyroidism.

Objectives -

1. To study the effect of *Brahmi Ghrita Brimhana Nasya* on DAS Scale-42.
2. To study the effect of *Ashwagandha Churna* on DAS Scale-42.
3. To compare the effect of *Brahmi Ghrita Brimhana Nasya* and *Ashwagandha Churna* on DAS Scale-42.

MATERIALS AND METHODS

Research is essential for diagnosis of disease, development of new treatment and gives the latest information. It often leads to effective treatment that helps people to improve the quality of life. Keeping this in mind the present study was taken into consideration. A case study was planned to comparative study of *Brahmi Ghrita Brimhana Nasya* and *Ashwagandha Churna* as adjuvant therapy in stress associated with hypothyroidism” - research article in randomly selected 60 clinically diagnosed and confirmed cases of Hypothyroidism from OPD of Chaudhary Brahm Prakash Ayurved Charak Sansthan.

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Study design

- Simple Randomized clinical study.
- Method of simple randomization is computer-generated random numbers.

Selection of patient - Patient of stress associated with hypothyroidism fulfilling the inclusion criteria will be selected from OPD and IPD of Ch. Brahm Prakash Ayurved Charak Sansthan, New Delhi.

Study setting - OPD and IPD of Panchakarma Department of Ch. Brahm Prakash Ayurved Charak Sansthan, New Delhi.

Sample size

N = 60 (30 in each group), Sample size calculated on the basis of difference of mean by open epi calculator is 60 (30m each group).

Sample selection**Diagnostic Criteria:**

Diagnosis will be based on the following:

- T3, T4 and TSH.
- DAS Scale-42 values mild to moderate.

Inclusion criteria

- Patients between the ages of 20-60 years.
- Patients diagnosed with controlled hypothyroidism which are on regular Thyroxine.
- DAS Scale-42 values mild to moderate.
- Patients fit for *Nasya* as per text.^[15]
- Patients not having any other chronic systemic disease.

Exclusion criteria

- Pregnant and lactating women.
- DAS Scale-42 values severe to extremely severe.
- Patient not fit for *Nasya* as per classical text.
- Patient having any other chronic systemic disease.

Withdrawal criteria

1. Patients willing to quit in between will be allowed to quit & will be replaced.
2. If any acute illness or serious adverse effect develops, patient will be treated accordingly and will be excluded from study.

Grouping - The selected patients will be divided into two groups by using computer-generated random numbers.

Group A - Brahmi Ghrita Brimhana Nasya

Group B - Ashwagandha churna

Brahmighrita^[16]

In Ayurvedic text Brahmi Ghrita describe in *Apasmara Chikitsa* by many Acharaya:

“ब्राह्मीरसवचाकुष्ठशङ्खपुष्पीभिरेवच/ पुराणं घृतमुन्मादालक्ष्म्यप
स्मारपापनुत् !!”

Table 1: Shows Ingredients of Brahmi Ghrita.

SN	Ingredients	Botanical name	Part
1.	Brahmi	<i>Bacopa monnieri</i>	16
2.	Ghrita		4
3.	Vacha	<i>Acorus calamus</i>	1
	Kushtha	<i>Saussurea lappa</i>	
	Shankhapushpi	<i>Convolvulus pluricaulis</i>	

This same composition has also been described by Vagbhata in *Ashtanga Hridaya*,^[17] Govind Das Sena in *Bhaishajya Ratnavali*^[18] and Bhava Mishra in *Bahvaparakasha*^[19] In Context of *Apasmara Chikitsa*.

Nasya Karma

औषधमौषधसिद्धो वा स्नेहो नासिकाभ्यां दीयत इति नस्यम् ।

तद्विधं शिरोविरेचनं, स्नेहनं च । तद्विधमपिपञ्चधा ।

Aushadh or *Sneha* processed with drugs are administered through the nostril, this is called *Nasya*^[20] *Nasya* is classified in various ways by different Acharaya.^[21,22]

Standard Operative Procedure for Nasya Karma**Table 2: Shows Procedure for Nasya Karma.**

Procedure	Drug Dose	Duration
<i>Poorvkarma</i>		
1. <i>Abhyang</i>	<i>Mahanarayan Oil</i>	10min
2. <i>Swedan</i>	<i>Dashmool Kwath Nadi Swedan</i>	10min
<i>Pradhana Karma</i>		
1. <i>Nasya Karma</i>	<i>Brahmi Ghrita</i> (8Bindu~4ml) (1Bindu~0.5ml)	
<i>Paschaat Karma</i>		
1. <i>Dhupan</i>	<i>Dashmool Dhumvarti</i>	3 time 3 gusps each nostril
2. <i>Kawal</i>	<i>Ushna Jala</i>	
3. <i>Swedan</i>	<i>Dashmool Kwath Nadi Swedan</i>	5 minutes

Group B: In 30 patients will be given *Ashwagandha Churna*.

Ashwagandha Churna^[23] (coarse powder)

Duration of administration: 28 days.

Time of administration: After meal at morning

Frequency of administration: once a day

Source of Procurement: IMPCL

Dose: 5gm

Anupana: Milk

OBSERVATIONS AND RESULTS

Statistical Analysis: In Group A and In Group B: DASS-42

Table 3: Showing Comparison of effect of therapy on Depression.

Group	Day	N	Mean	SD	t	P
Group A	D1	30	12.33	2.96	- 15.032	< 0.001
	D28	30	7.36	1.92		
Group B	D1	30	12.56	2.01	- 14.708	< 0.001
	D28	30	7.80	1.24		

Since observations are quantitative and sample size is 30. We have used paired t-test to test significance in Group A and Group B. From above table we can observe that P-Value for Group A and Group B is less than 0.05. Hence, we conclude that effect observed in Group A and Group B is significant.

Table 4: Showing Comparison of effect of therapy on Anxiety

Group	Day	N	Mean	SD	t	P
Group A	D1	30	9.93	2.28	- 12.653	< 0.001
	D28	30	5.53	1.56		
Group B	D1	30	11.76	2.93	- 10.344	< 0.001
	D28	30	7.43	1.54		

Since observations are quantitative and sample size is 30. We have used paired t-test to test significance in Group A and Group B. From above table we can observe that P-Value for Group A and Group B is less than 0.05. Hence, we conclude that effect observed on anxiety in Group A and Group B is significant.

Table 5: Showing Comparison of effect of therapy on Stress.

Group	Day	N	Mean	SD	t	P
Group A	D1	30	19.460	3.970	- 16.522	< 0.001
	D28	30	10.66	2.53		
Group B	D1	30	21.866	3.13	- 20.395	< 0.001
	D28	30	13.16	1.98		

Since observations are quantitative and sample size is 30. We have used paired t-test to test significance in Group A and Group B. From above table we can observe that P-Value for Group A and Group B is less than 0.05. Hence, we conclude that effect observed on stress in Group A and Group B is significant.

Graph 1: Showing Comparison of effect of therapy on DASS-42.

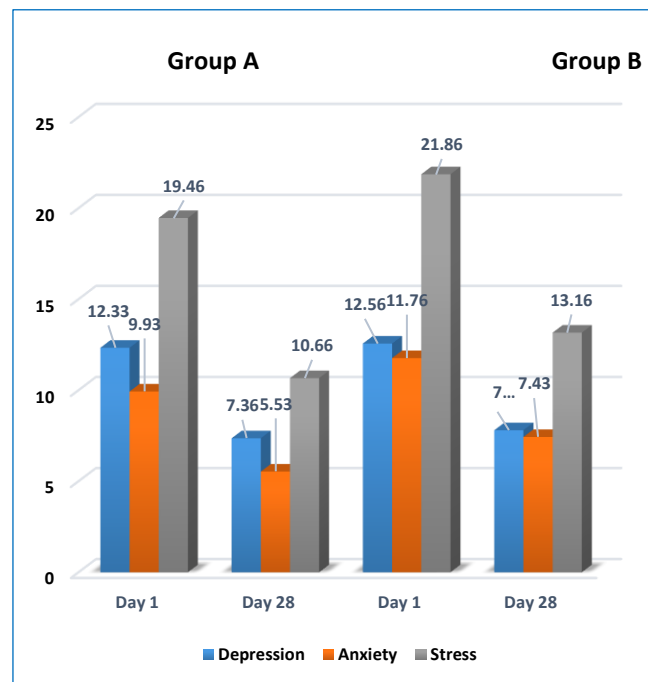


Table 6: Showing Comparison of effect of therapy in Both Group:

Variable	Group	N	Mean	SD	t-Value	P-Value	Result
Depression	Group A	30	9.84	3.51	0.097	0.9313	NS
	Group B	30	10.18	3.36			
Anxiety	Group A	30	7.73	3.11	0.604	0.6071	NS
	Group B	30	9.59	3.06			
Stress	Group A	30	15.06	6.22	0.396	0.7302	NS
	Group B	30	17.51	6.15			

Unpaired t-test is carried out for comparison between Group A and Group B. From above table, we can observe that, P-Value is greater than 0.05. Hence, we can conclude that, there is no significant difference between Group A and Group B.

DISCUSSION

Effect of therapy on Depression

In this study, P-Value for Group A and Group B is less than 0.05. Hence, we conclude that effect observed in Group A and Group B is significant.

In intergroup comparison showed that effect of therapy in Group A and Group B is no significant difference ($P > 0.05$) at 3rd follow up (28th days).

Effect of therapy on Anxiety

In this study, P-Value for Group A and Group B is less than 0.05. Hence, we conclude that effect observed in Group A and Group B is significant.

In intergroup comparison showed that effect of therapy in Group A and Group B is no significant difference ($P > 0.05$) at 3rd follow up (28th days).

Effect of therapy on Stress

In this study, P-Value for Group A and Group B is less than 0.05. Hence, we conclude that effect observed in Group A and Group B is significant.

In intergroup comparison showed that effect of therapy in Group A and Group B is no significant difference ($P > .05$) at 3rd follow up (28th days).

CONCLUSION

Hypothyroidism is a major metabolic illness that may affect several systems and have a significant impact on a person's everyday life. A total of 33.3% of patients were classified as being between the ages of 31 and 40, while 28.3% were classified as being between the ages of 41 and 50. Patients between the ages of 51 and 60 accounted for 11.7% of the total, while patients between the ages of 21 and 30 accounted for 8.3%. Some of the symptoms of *Galganda*, *Mandagni Janya Vikar*, such as swelling, *Tandra*, *Mandagni*, *Aruchi*, problems breathing, and so on, may be comparable to hypothyroidism in modern science. Higher rates of occurrence in females suggest that a hormonal imbalance plays a role in the disease's development. *Charak Samhita*, *Shushrut Samhita*, *Astanga Hridaya*, *Bhaishjya Ratnavali*, and *Bhavprakash* all make direct references to the *Ghrita* used in this research. In comparison with the *Brahmi Ghrita Brihmna Marsha Nasya*, the internal medication *Ashwagandha Churna* has been quite effective in decreasing the most bothersome symptoms. On the subjective DAS Score-42 scale, there is a strong correlation between Groups A and B.

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