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

Kusum Thapa¹, Pankaj Kumar Katara², Arun Gupta³

¹Post Graduate Scholar, Post Graduate Department of Panchakarma, Ch. Brahm Prakash Ayurved Charak Sansthan Khera Dabar, New Delhi, India.
²Assistant Professor, Post Graduate Department of Panchakarma, Ch. Brahm Prakash Ayurved Charak Sansthan Khera Dabar, New Delhi, India.
³Professor and HOD, Post Graduate Department of Panchakarma, Ch. Brahm Prakash Ayurved Charak Sansthan Khera Dabar, New Delhi, India.

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 Vruddhi 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

Address for correspondence:
Dr. Kusum Thapa
Post Graduate Scholar, Post Graduate Department of Panchakarma, Ch. Brahm Prakash Ayurved Charak Sansthan Khera Dabar, New Delhi, India.
E-mail: kusum456thapa@gmail.com
Submission Date: 15/08/2023 Accepted Date: 26/09/2023

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 Dhatus, and balanced evacuation of Malas.[7] Charaka posits that health is achieved when one’s mental and bodily processes are harmoniously intertwined.[8]


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 Charaka 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.

CTRI No. CTRI/2022/03/041097

IEC No. - CBP-IEC/2020/PK-06/Md/21

**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:

"ब्राह्मीरसवचाकुष्ठिङ्खपुष्पीशिरेवच | पुराणं घृतमुन्मादालक्ष्म्यप | स्मारपापनुत् ।!"

Table 1: Shows Ingredients of Brahmi Ghrita.

<table>
<thead>
<tr>
<th>SN</th>
<th>Ingredients</th>
<th>Botanical name</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Brahmi</td>
<td>Bacopa monnieri</td>
<td>16</td>
</tr>
<tr>
<td>2.</td>
<td>Ghrita</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>3.</td>
<td>Vacha Kushtha Shankhpushpi</td>
<td>Acorus calamus Saussurea lappa Convolvulus pluricaulis</td>
<td>1</td>
</tr>
</tbody>
</table>

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

Nasya Karma

औषधमौषधशसद्धो वा स्नेश दीयत इति नस्यम् | तद्द्वववधं शिरोववरेचनं, स्नेशनं च | तद्द्वववधमवपपञ्चधा |

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 Karama

Table 2: Shows Procedure for Nasya Karma.

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Drug Dose</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poorvkarma</td>
<td>Abhyang Dashmool Kwath Nadi</td>
<td>Mahanarayan Oil</td>
</tr>
<tr>
<td>Swedan</td>
<td>Dashmool Kwath</td>
<td>10min</td>
</tr>
<tr>
<td>Pradhana Karma</td>
<td>Nasya Karma</td>
<td>Brahmi Ghrita</td>
</tr>
<tr>
<td>1. Dhupan</td>
<td>Ushna Jala</td>
<td>5 minutes</td>
</tr>
<tr>
<td>2. Kawal</td>
<td>Dashmool Kwath Nadi</td>
<td></td>
</tr>
<tr>
<td>3. Swedan</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This table describes the procedure for administering Nasya Karma, including the use of different drugs and their dosages. The table outlines the steps involved in the procedure, providing a clear and structured guide for the treatment.
**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.**

<table>
<thead>
<tr>
<th>Group</th>
<th>Day</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>D1</td>
<td>30</td>
<td>12.33</td>
<td>2.96</td>
<td>-15.032</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>D28</td>
<td>30</td>
<td>7.36</td>
<td>1.92</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group B</td>
<td>D1</td>
<td>30</td>
<td>12.56</td>
<td>2.01</td>
<td>-14.708</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>D28</td>
<td>30</td>
<td>7.80</td>
<td>1.24</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 depression in Group A and Group B is significant.

**Table 4: Showing Comparison of effect of therapy on Anxiety**

<table>
<thead>
<tr>
<th>Group</th>
<th>Day</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>D1</td>
<td>30</td>
<td>9.93</td>
<td>2.28</td>
<td>-12.653</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>D28</td>
<td>30</td>
<td>5.53</td>
<td>1.56</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group B</td>
<td>D1</td>
<td>30</td>
<td>11.76</td>
<td>2.93</td>
<td>-10.344</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>D28</td>
<td>30</td>
<td>7.43</td>
<td>1.54</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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.**

<table>
<thead>
<tr>
<th>Group</th>
<th>Day</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group A</td>
<td>D1</td>
<td>30</td>
<td>19.46</td>
<td>3.97</td>
<td>-16.522</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>D28</td>
<td>30</td>
<td>10.66</td>
<td>2.53</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group B</td>
<td>D1</td>
<td>30</td>
<td>21.86</td>
<td>3.13</td>
<td>-20.395</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td></td>
<td>D28</td>
<td>30</td>
<td>13.16</td>
<td>1.98</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>t-Value</th>
<th>P-Value</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Depression</td>
<td>Group A</td>
<td>30</td>
<td>9.84</td>
<td>3.51</td>
<td>0.097</td>
<td>0.9313</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>30</td>
<td>10.18</td>
<td>3.36</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td>Group A</td>
<td>30</td>
<td>7.73</td>
<td>3.11</td>
<td>0.604</td>
<td>0.6071</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>30</td>
<td>9.59</td>
<td>3.06</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stress</td>
<td>Group A</td>
<td>30</td>
<td>15.06</td>
<td>6.22</td>
<td>0.396</td>
<td>0.7302</td>
<td>NS</td>
</tr>
<tr>
<td></td>
<td>Group B</td>
<td>30</td>
<td>17.51</td>
<td>6.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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 > 0.05) 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 Hridya, Bhaishyja Ratnavali, and Bhaivprakash 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.

REFERENCES


Source of Support: Nil, Conflict of Interest: None declared.