

PILOT STUDY

Ayurvedic Management of Subclinical Hypothyroidism Vis-À-Vis *Kaphavrita Udanavata* – A Pilot Study

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ABSTRACT

Hypothyroidism is a common medical condition that affects the thyroid gland, which is located in the neck and is responsible for producing hormones that regulate metabolism. When the thyroid gland does not produce enough of these hormones. It can lead to a range of symptoms and health problems such as reduced appetite, dry skin, irregular menstrual cycle, cold intolerance, hoarseness of voice, weight gain, and fatigue. Diagnosis of hypothyroidism typically involves blood tests to measure the levels of thyroid hormones and thyroid stimulating hormone. Moreover, conservative treatment involves the consumption of synthetic thyroid hormones to replace the inadequacy of thyroid hormones on daily basis. In *Ayurveda*, we can correlate this condition with the *Kaphavrita Udanavata* based on symptoms. A pilot study has been conducted to observe the efficacy of *Panchatiktha Ghrita Guggulu* in managing subclinical hypothyroidism vis-à-vis *Kaphavrita Udanavata*. Hence, this piece of work is an effort to add value to the *Ayurvedic* Treatment Modalities by showing that hypothyroidism can be managed by *Ayurvedic* intervention alone.

1. INTRODUCTION

Hypothyroidism is an endocrinal as well as metabolic disorder. The prevalence rate of hypothyroidism in India is 11%.^[1] Compared to coastal cities such as Mumbai, Goa, and Chennai, cities located inland such as Kolkata, Delhi, Ahmedabad, Bangalore, and Hyderabad have a higher prevalence (11.7% vs. 9.5%).^[1] The highest prevalence of hypothyroidism (13.1%) is noted in people aged 46–54 years, with people aged 18–35 years being less affected (7.5%).^[1]

Subclinical hypothyroidism (SCH), also called mild thyroid failure, is diagnosed when peripheral thyroid hormone levels are within normal reference laboratory range but serum thyroid stimulating hormone (TSH) levels are mild and elevated.^[2] SCH is a condition in which the thyroid gland does not produce enough thyroid hormones. However, all patients does not display symptoms of hypothyroidism. It is a most common condition affecting people worldwide and most commonly females.

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The thyroid gland produces two hormones, thyroxine (T4) and triiodothyronine (T3), which are responsible for regulating metabolism in the body. When the thyroid gland becomes incapable of producing adequate hormones, it slows down the metabolism and causes range of symptoms such as reduced appetite, fatigue, hoarseness of voice, cold intolerance, weight gain, dry skin, and irregular menstrual cycle as well as hair fall.

In SCH, T3 and T4 values will be within normal range, whereas the TSH level will be elevated. TSH is a hormone produced by the pituitary gland that stimulates the thyroid gland to produce thyroid hormones. When TSH levels are high, it indicates that thyroid gland is not producing enough hormones to meet the body's needs.

The causes of SCH are not fully understood, but it is thought to be related to autoimmune diseases such as Hashimoto's thyroiditis, which can damage the thyroid gland and reduce its ability to produce hormones. Other causes may include iodine deficiency, certain medications, and radiation therapy.

In *Ayurveda*, hypothyroidism can be correlated with *Galaganda*, *Gandamala*, *Kaphaja Shotha*, *Kaphaja Panduroga*, *Udanavrita Samana*, pathological increase of *Kapha*, and *Kaphavrita Udanavata*.

Kaphavrita Udanavata is a condition where in the aggravated *kapha* occludes *Udanavata* and affects its functions. Throat is a site of thyroid gland which is also a region of *udanavata*. When *kapha* occludes *udanavata*, *udanavata* gets occluded and subdued, which in turn causes thyroid gland to produce fewer hormones. This leads to deterioration of metabolism and eventually leads to the onset of hypothyroidism.

As the seat of *udanavata* is also the primary seat of *kapha*. Hence, when *kapha* gets aggravated, it dominates *udanavata*. Aggravated *kapha* along with suppressed *vata* causes metabolic suppression similar to as in hypothyroidism.^[3] Here, in this pilot study, subjects included in the study after diagnosing the condition as *Kaphavrita Udanavata* and were intervened with *Panchatiktha Ghrita Guggulu*.

2. CASE REPORT

This Pilot study included subjects who visited the OPDs of D G M Ayurvedic Medical College, Hospital and PG and Ph.D. studies and Research Center Gadag with a history of common symptoms such as fatigue, reduced appetite, cold intolerance, hoarseness of voice, weight gain, and irregular menstrual cycle. They were subjected to undergo thyroid profile test to include them in the study. Demographical data, personal as well as medical history with onset, and duration were recorded in the special case sheet performa and prepared for the intended study. Pre-post treatment assessments were done using the gradings of subjective parameters and values of objective parameters.

3. CASE PRESENTATIONS

3.1. Case 1

A 32-year-old female presented with complaints of tiredness, fatigue, cold intolerance, change in voice, and reduced appetite for 6 months.

Associated complaints: Headache and irregular menstrual cycles.

She is a known case of primary infertility.

3.2. Case 2

A 30-year-old female presented with complaints of loss of appetite, cold intolerance, and fatigue for 5–6 months.

Associated complaints: Constipation and bloating.

3.3. Case 3

A 23-year-old female presented with complaints of fatigue, generalized weakness, reduced appetite, and roughness of voice for 5–6 months.

Associated complaints: Hypomenorrhea.

3.4. Case 4

A 26-year-old female presented with complaints of fatigue, cold intolerance, and irregular menstrual cycles for 3–4 months.

She is a known case of polycystic ovary syndrome (PCOS) and primary infertility.

3.5. Case 5

A 32-year-old female presented with complaints of fatigue and loss of appetite for 3–4 months.

She also had irregular menstrual cycles.

She is a known case of PCOS and primary infertility.

3.6. Case 6

A 47-year-old female presented with complaints of fatigue, loss of appetite, and cold for few months.

She is not having any other medical conditions.

4. MATERIALS AND METHODS

4.1. Study Design

Pilot study.

4.2. Sampling Technique

Simple random sampling technique.

4.3. Diagnostic Criteria

Diagnosis is done based on the subjective and objective parameters.

4.4. Subjective Parameters

1. *Dourbalya*/Fatigue
2. *Aruchi*/Reduced Appetite
3. *Vak Swara Graha*/Hoarseness of voice
4. *Sheetata*/Cold Intolerance.

4.5. Objective Parameters

1. Thyroid profile (TSH between 5 μ IU/ml and 20 μ IU/ml).

Screening investigations such as CBC and RBS were done to rule out any other conditions.

4.6. Therapeutic Intervention

Table 1 shows details of therapeutic intervention:

1. Total duration of the study includes 67 days of intervention and 30-day follow-up.
2. During follow-up period, subjects were informed to follow proper diet and perform Surya Namaskara.

Table 2 shows the ingredients of the drugs.

4.7. Assessment Criteria

Table 3 shows the gradings of subjective parameters.

Table 4 shows BT and AT gradings of subjective parameters.

Table 5 shows BT and AT reports of objective parameters.

5. RESULTS AND OBSERVATION

The result and observation of the study is shown in graphs below

Graph 1 shows BT and AT mean score of *Dourbalya*.

Graph 2 shows BT and AT mean score of *Aruchi*.

Graph 3 shows BT and AT mean score of *Vak Swara Graha*.

Graph 4 shows BT and AT mean score of *Sheetata*.

6. DISCUSSION

Endocrine disorders are a growing concern nowadays, which affects metabolism, growth, development, etc. SCH is one such endocrinal disorder whose pathophysiology is not fully understood, but it

is thought to be caused by various reasons such as genetic factors, environmental factors, autoimmune thyroiditis, iodine deficiency, certain medications, and aging. The sedentary lifestyle and varying food habits of people are also leading causes for hormonal imbalance and metabolic impairment. Hence, along with medical management, correction of food habits and lifestyle also weighs equally. This is why it is very important to understand this condition in terms of *Ayurveda*. Whenever there are no direct correlations mentioned in *Ayurveda*, we can correlate based on the symptoms and treat the particular condition according to *dosha* predominance.

As per *ayurveda* principles, for any disease to manifest, *mandagni* is the foremost reason. *Mandagni* will lead to the formation of *Ama* which in turn vitiates *Rasa dhatu*. *Kapha dosha* being *ashrayi* of *Rasa dhatu*, vitiation of *Rasa dhatu* leads to vitiation of *Kapha dosha*. The aggravated *Kapha* occludes *Udanavata* as the seat of *udanavata* is also a primary seat of *kapha*. Due to the occlusion, functions of *udanavata* get hampered and result in metabolic impairment which in turn manifests various symptoms such as *Aruchi*, *Dourbalya*, *Sheetata*, *Vak swara graha*, and *Vaivarnya* which mimics the symptoms of hypothyroidism.

Hence, to treat *Mandagni*, *Bahudoshavastha*, *Srotoavarodha*, drugs having *Deepana*, *Pachana*, *Bhedana*, and *Kaphavatahara* properties are a drug of choice. Hence, *Haritakyadi yoga* having the properties of *Deepana*, *Pachana*, *Bhedana*, *Lekhana*, *Anulomana* is given prior administration of *Panchatiktha Ghritha Guggulu* for *Koshta shuddi*. Then, *Panchatiktha Ghritha Guggulu* is given for a duration of 2 months which has *Kaphavatahara*, *Agnideepana*, *Rasayana*, *Srotoshodhaka* properties that help in relieving symptoms and restore normal metabolic functions.

Subjects got satisfactory relief from associated complaints such as irregular menstrual cycle, hair fall, and weight gain. *Panchatiktha Ghritha Guggulu* is also an excellent choice of drug in various other diseases such as *Gandamala*, *Nadi Vrana*, *Bhagandara*, *Jatruhdwa rogas*, *Aruchi*, *Shwasana*, *Peenasa*, *Panduroga*, and *Vata kaphaja vikaras*.

7. CONCLUSION

SCH is a common condition that affects many people. If untreated, it will cause overt clinical symptoms and lead to further complications. This pilot study showed how Ayurvedic intervention was beneficial in managing this condition by reducing the symptoms and the elevated TSH levels. Patients did not notice any recurrence of symptoms after the completion of treatment. Hence, we may consider *Panchatiktha Ghritha Guggulu* as a choice of medicine while treating SCH.

8. ACKNOWLEDGMENTS

None.

9. AUTHORS' CONTRIBUTIONS

All the authors contributed equally in design and execution of the article.

10. FUNDING

Nil.

11. ETHICAL APPROVALS

This study did not require ethical clearance as it is case study.

12. CONFLICTS OF INTEREST

Nil.

13. DATA AVAILABILITY

This is an original manuscript and all data are available for only review purposes from principal investigators.

14. PUBLISHERS NOTE

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REFERENCES

1. Bagcchi S. Hypothyroidism in India: More to be done. *Lancet Diabetes Endocrinol* 2014;2:778.
2. Fatourecchi V. Subclinical hypothyroidism: An update for primary care physicians. *Mayo Clin Proc* 2009;84:65-71.
3. Vedavati, Santosh N. Ayurvedic management of subclinical hypothyroidism vis-à-vis Kaphavrita Udanavata - a case report. *J Ayurveda Holist Med* 2023;11:88-94.
4. Sharma P. Acharya Charaka, Charaka Samhita. Rasayana Adhyaya Prathama Pada. Vol. 2., Ch. 1., Verse 25. Varanasi: Chaukhamba Orientalia; 2014. p. 5.
5. Gopal K. Rasa Tantra Sar Va Sidda Prayoga Sangraha Khanda - 1. *Guggulu Kalpana*. 19th ed. Rajasthan: Krishna Gopal Ayurveda Bhavan; 2010. p. 442.
6. Davidson S. In: Ralston SH, Penman ID, Strachan MW, Hobson RP, editors. *Davidson's Principles and Practice of Medicine*. 23rd ed. Netherlands: Elsevier; 2018. p. 639-60.
7. Munjal YP. *API Textbook of Medicine*. 9th ed. New Delhi: Jaypee Brothers; 2012. p. 425.
8. Kasper D, Fauci A, Hauser S, Longo D, Loscalzo J. *Harrisons Principles of Internal Medicine*. 19th ed., Vol. 2. New York: McGraw Hill Education; 2017. p. 2699.
9. Davidson S. In: Ralston SH, Penman ID, Strachan MW, Hobson RP, editors. *Davidson's Principles and Practice of Medicine*. 23rd ed. Netherlands: Elsevier; 2018. p. 637.

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Table 1: Details of therapeutic intervention

| S. No. | Name of the Medicine | Dosage and Anupana | Duration |
|--------|--|---|----------|
| 1 | Haritakyadi Yoga ^[4] | 3 g bid before food along with lukewarm water | 7 days |
| 2 | Panchatiktha Ghrita Guggulu ^[5] | 2 tab tid after food along with water. (1 tab=500 mg) | 60 days |

Table 2: Ingredients of the drugs

| 1. Haritakyadi Yoga | | |
|--------------------------------|----------------|-----------------------------|
| S. No. | Drug Name | Latin Name |
| 1 | Haritaki | Terminalia chebula |
| 2 | Saindhava | Rock salt |
| 3 | Amalaki | Emblica officinalis |
| 4 | Guda | Jaggery |
| 5 | Vacha | Acorus calamus |
| 6 | Vidanga | Embelia ribes |
| 7 | Rajani | Curcuma longa |
| 8 | Pippali | Piper longum |
| 9 | Shunti | Zingiber officinale |
| 2. Panchatiktha Ghrita Guggulu | | |
| S. No. | Drug Name | Latin Name |
| 1 | Nimba | Azadirachta indica |
| 2 | Amruta | Tinospora cordifolia |
| 3 | Vasaka | Adhatoda vasica |
| 4 | Patola | Trichosanthes dioica |
| 5 | Nidigdika | Solanum xanthocarpum |
| 6 | Shudda Guggulu | Commiphora mukul |
| 7 | Patha | Cissampelos pareira |
| 8 | Vidanga | Embelia ribes |
| 9 | Suradaru | Cedrus deodara |
| 10 | Gaja Pippali | Piper retrofractum |
| 11 | Yavakshara | Hordeum vulgare |
| 12 | Sarjakshara | Vateria indica |
| 13 | Shunti | Zingiber officinale |
| 14 | Haridra | Curcuma longa |
| 15 | Chavya | Piper chaba |
| 16 | Kushta | Saussurea lappa |
| 17 | Tejovati | Zanthoxylum alatum |
| 18 | Maricha | Piper nigrum |
| 19 | Vatsaka | Holarrhena antidysenterica |
| 20 | Deeipyaka | Trachyspermum roxburghianum |
| 21 | Chitraka | Plumbago zeylanica |
| 22 | Rohini | Picrorhiza kurroa |
| 23 | Aruskara | Semecarpus anacardium |
| 24 | Vacha | Acorus calamus |
| 25 | Pippalimoola | Piper longum |
| 26 | Manjishtha | Rubia cordifolia |
| 27 | Ativisha | Aconitum heterophyllum |
| 28 | Haritaki | Terminalia chebula |

(Contd...)

Table 2: (Continued)

| 2. Panchatiktha Ghrita Guggulu | | |
|--------------------------------|--------------------|----------------------|
| S. No. | Drug Name | Latin Name |
| 29 | Vibhitaki | Terminalia bellirica |
| 30 | Amalaki | Emblica officinalis |
| 31 | Yavani | Trachyspermum ammi |
| 32 | Mishreya | Foeniculum vulgare |
| 33 | Murchita Go Ghrita | Ghee |
| 34 | Water | |

Table 3: Gradings of subjective parameters

| Subjective parameters | Gradings | Scores |
|---|-----------------------------------|--------|
| <i>Dourbalya</i> ^[6] (Fatigue) | Fatigue on excessive work | 0 |
| | Fatigue on moderate work | 1 |
| | Fatigue on mild work | 2 |
| | Fatigue at rest | 3 |
| <i>Aruchi</i> ^[7] (Decrease in appetite) | Good appetite | 0 |
| | Quantum of food reduced | 1 |
| | Irregular food habits | 2 |
| <i>Vak Swara graha</i> ^[8] (Hoarseness of voice) | Complete loss of interest in food | 3 |
| | Roughness | 0 |
| | Breathiness | 1 |
| <i>Sheetata</i> ^[9] (Cold intolerance) | Asthenia | 2 |
| | Strain | 3 |
| | No | 0 |
| | Yes | 1 |

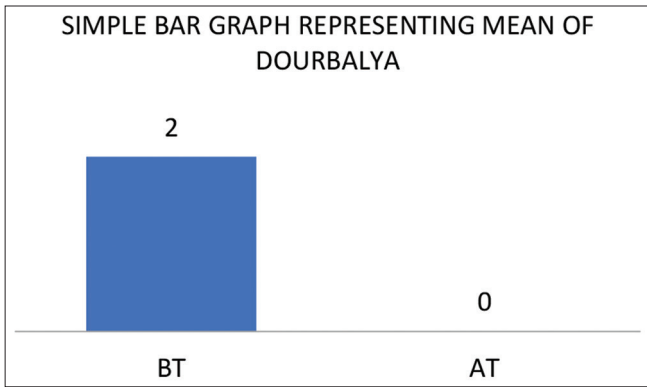
Table 4: BT and AT gradings of subjective parameters

| Case No. | BT/AT | <i>Dourbalya</i> | <i>Aruchi</i> | <i>Vak Swara Graha</i> | <i>Sheetata</i> |
|----------|-------|------------------|---------------|------------------------|-----------------|
| 1 | BT | 2 | 3 | 1 | 1 |
| | AT | 0 | 0 | 0 | 0 |
| 2 | BT | 2 | 2 | 0 | 1 |
| | AT | 0 | 0 | 0 | 0 |
| 3 | BT | 2 | 2 | 1 | 0 |
| | AT | 0 | 0 | 0 | 0 |
| 4 | BT | 2 | 0 | 0 | 1 |
| | AT | 0 | 0 | 0 | 0 |
| 5 | BT | 2 | 2 | 0 | 0 |
| | AT | 0 | 0 | 0 | 0 |
| 6 | BT | 2 | 2 | 0 | 1 |
| | AT | 0 | 0 | 0 | 0 |

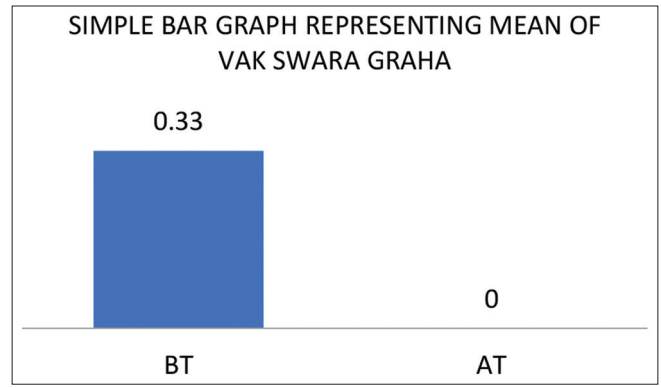
Table 5: BT and AT reports of objective parameters

| Case.No. | BT (TSH level in μ IU/ml) | AT (TSH level in μ IU/ml) |
|----------|-------------------------------|-------------------------------|
| 01 | 5.34 | 4.36 |
| 02 | 15.61 | 12.5 |
| 03 | 10.33 | 2.97 |
| 04 | 15.19 | 2.76 |
| 05 | 14.06 | 20.58 |
| 06 | 6.67 | 4.56 |

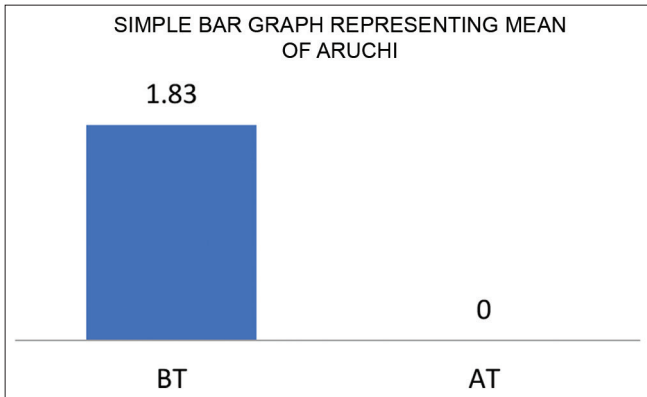
TSH: Thyroid Stimulating Hormone



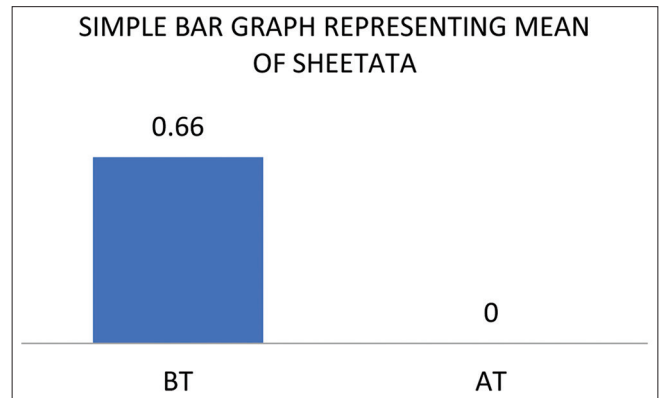
Graph 1: BT and AT mean score of Dourbalya



Graph 3: BT and AT mean score of Vak Swara Graha



Graph 2: BT and AT mean score of Aruchi



Graph 4: BT and AT mean score of Sheetata