



Review Article

WHY MORE PREVALENCE OF THYROID DISORDERS IN WOMEN IN PRESENT SCENARIO

Bhagya Shree Potter^{1*}, Naval Singh², Ashok Kumar Sharma³, Rekh Raj Meena⁴, Ayushi Nigam⁴

¹PG Scholar, ³Head of Department, ⁴Assistant Professor, Dept. of Kriya Sharira, M.M.M Govt. Ayurveda College, Udaipur.

²PG Scholar, Department of Samhita & Maulik Siddhant, NIA (De-Novo), Jaipur, Rajasthan, India.

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ABSTRACT

It is no surprise that women nowadays face a slew of health challenges. Thyroid dysfunctions, which are primarily caused by an imbalance of thyroid hormones are growing more frequent, with the American Thyroid Association estimating that one out of every eight women may experience thyroid challenges over her lifetime. Furthermore, it is expected that women are 5 to 8 times more prone than males to acquire thyroid issues. Because of modernity and increased stress in everyday life, *Vega dharana*, hormonal changes, iodine insufficiency, autoimmune disorders resulting in numerous endocrinal disorders in females. Hypothyroidism and hyperthyroidism is a prevalent endocrine illness that affects people all over the world. These figures point to an increase in the number of women experiencing health issues such as menstrual cycle imbalance, polycystic ovarian syndrome, sudden weight gain or loss, hypertension, lethargy, dry skin and hair, constipation and so on, all of which have their own effects on the body and are directly or indirectly related. The review will be useful in understanding the pathophysiology of Thyroid disorders and changing the disease's treatment regimen.

INTRODUCTION

The thyroid is a tiny butterfly-shaped gland located at the front of the neck. It produces hormones that regulate how the body utilises energy. These hormones touch almost every organ in your body and regulate many of its most vital processes. Thyroid hormones regulate our bodies' metabolic processes. Hypothyroidism is defined as a decrease in thyroid hormone output (T3 and T4) and an increase in TSH. Hyperthyroidism occurs when there is an overabundance of thyroid hormones, such as T3 or T4 or both.

Hypothyroidism is thought to be a frequent health problem in India, as it is elsewhere.

Hypothyroidism is a life-threatening disorder that is becoming more common. The most frequent condition is hypothyroidism, which affects 5.4% of the population.^[1] It is more common in females, with a male-female ratio of 1:6.^[2] Hypothyroidism is caused by any resistance or shortage of hormones to our body tissue in relation to metabolic requirement. Hypothyroidism has a wide clinical spectrum, ranging from an asymptomatic or subclinical illness with normal levels of thyroxine and tri-iodothyronine and modestly raised levels of serum TSH to an overt case of myxedema, end-organ consequences, and multisystem failure. The hypothalamus and pituitary gland collaborate in order to keep thyroid hormone levels stable in the body. It is caused by a hormonal imbalance and a reduction in metabolism. *Agni*, according to Ayurveda, regulates metabolism. *Dhatvagni*, one of the three kinds of *Agni*, transforms *Ahararasa* into a certain *Dhatu*. Hypothyroidism is characterised by *Dhatvagni* hypofunction, which results in symptoms such as sluggishness, tiredness, and so on.

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There is no clear mention to hyperthyroidism in Ayurvedic texts. In terms of numerous aspects, it can be comparable to *Atyagni*, *Tikshnagni* or *Bhasmaka Roga* (all of which are associated to enhanced *Agni*). Hyperthyroidism is a condition in which there is excessive thyroid hormone production in the body, similar to how *Atyagni*, *Tikshnagni* or *Bhasmaka Roga* (related to fire) affects the human metabolism. Both *Bhasmaka Roga* and hyperthyroidism are conditions. *Pitta Prakopa* (aggravation) plays an essential part in the pathophysiology and generation of symptoms in both illnesses. Tri-iodothyronine (T3) and Thyroxine (T4) thyroid hormones function as *Pitta* in the body. As a result, *Bhasmaka Roga* might be linked to the lifestyle condition Hyperthyroidism. There is an abundance of *Agni* in *Atyagni*, *Tikshnagni* and *Bhasmaka Roga*.

The reasons for Thyroid disorder being more prevalent in women than in men are given below.

Autoimmune Disorders are More Prone in Females

One explanation for this is that thyroid diseases are frequently driven by autoimmune reactions, which occur when the body's immune system begins to target its own cells. We still don't know what causes these reactions, but we do know that autoimmune diseases are more frequent in women than in males. Autoimmune disorders including rheumatoid arthritis and Sjogren's syndrome are thought to be more common in women due to hormonal changes. Autoimmune illnesses have a notable gender bias, with a 2 to 1 prevalence among women. Many autoimmune illnesses afflict women at times of high stress, such as pregnancy or during times of significant hormonal shift.^[3] Women are less prone to infectious Diseases than males, but they are more susceptible to autoimmune disorders, which are caused in part by the X chromosome, which includes many immune-related genes. Women benefit from having two X chromosomes, but at a higher risk of developing autoimmunity.^[4]

Stress

It is not easy to be a woman, especially in today's society, when the stress of balancing the difficult juggle of both work and family life dominates every day. The prevalence of thyroid problems is affected by a variety of factors, including age, gender, regional factors, and iodine consumption. The pathophysiology of hypothyroidism is heavily influenced by stress. There is no direct mention to hypothyroidism in the Samhitas, yet rising stress in our daily lives changes the hypothalamus- activity of the pituitary-thyroid axis. Stress effects the immune system both directly and indirectly through activating brain and endocrine systems.^[5]

Hormonal Changes during Menstrual Cycle and After Menopause

Another factor for the predominance of thyroid diseases in women is the interaction between thyroid hormones and the hormones that vary during the menstrual cycle. Thyroid disorders can occur at any time, but they are more frequent in women during and after menopause, when hormone levels change. Some women may mistake the symptoms of thyroid issues with the consequences of menopause, preventing them from seeking treatment.

Iodine Insufficiency in Females

Environmental iodine deficiency is the leading cause of thyroid problems globally, including hypothyroidism.⁶ Women use more iodine than males do due to pregnancy, foetal development, and nursing. As a result, women need more iodine than males. Recommendations are 150gm for adults, 220gm for pregnant women, and 290gm for breastfeeding, 110 to 130gm for babies up to 12 months, 90gm for children up to eight years, and 130gm for children up to 13 years. Adults should consume no more than 1,100gm of iodine per day.

Vegadharana (Natural Urges in Female)

- a) Females are more prone to suppressing impulses due to a variety of causes. Because they are influenced by social culture and their environment.
- b) Being busy throughout the day suppresses the urges of urine *Pureesh*. Family responsibilities are also important (Y.T. Acharya, 2007).
- c) Apart from that, today's unsanitary toilets and hectic work schedules push females to delay their physical demands, which will be hazardous to them in the future (Toilets for Health, 2016).

Veganigraha is the fundamental cause of practically all diseases according to Ayurveda.^[7] Thyroid hormone raises basal metabolic rate (BMR) in all tissues except the brain, spleen, and gonads. This activity is analogous to *Agni's* function in our bodies. Thyroid hormone mostly affects the *strotas Rasavaha*, *Raktavaha*, *Mansavaha*, *Medovaha*, *Asthivaha*, *Sukravaha*, and *Manovaha*.

AIMS AND OBJECTIVES

1. To assess the etiological component of thyroid disorders in females.
2. To find out why mostly women suffer from thyroid disorders.
3. To find out why thyroid disorders is more common in women than in men.

MATERIAL AND METHOD

This research was conducted utilizing numerous Ayurveda ancient texts, PubMed, Google Scholar and available current literature (*Samhitas*) and

the obtained facts and observations were presented in a scientific way.

DISCUSSION

Although hypothyroidism is not expressly discussed in Ayurvedic literature, indications and symptoms of hypothyroidism can be correlated with symptoms of *Dhatvagnimandya* according to Ayurvedic principles. For body function rhythmicity, *Agni* must be in normal state. According to the allopathic system, thyroid hormone controls the metabolic activity of the body, however in Ayurveda, we discovered that *Jatharagni*, *Bhutagni* and *Dhatvagni* govern the metabolic activity of the body.^[8] So, the source of sickness is a change in metabolic activity which Ayurveda refers to as vitiation of *Dhatvagni*.

This vitiation can occur in two ways: when *Jatharagni* is damaged, *Dhatvagni* is also affected.^[9] On the other hand, this *Jatharagni mandya* leads to the production of *Ama*, which produces *Srotorodha* (blockage of subsequent bodily channels).^[10] The aforesaid pathogenic sequences result in the formation of vitiated rasa *Dhatu*. Thus, a series of pathogenic events is initiated. *Jatharagni mandya*, once formed, may be cured, whereas *Dhatvagni* vitiation, once formed, cannot be readily removed. On this basis, we might presume that the sickness is persistent and that it is difficult to treat. Furthermore, a longer period of therapy is required to cure *Aama* at the *Dhatu* level. **“Swasthanasya kayagnehe anshaha dhatushu samshritaha/**

Tesham sadatideeptibhyam dhatuvrudhikshayodbhavaha/”

Dhatvagni and *Jatharagni* have a direct relationship according to Acharya *Vagbhata*. All of the *Dhatus* have their own *Agni* called *Dhatvagni* and are all a part of *Jatharagni*. So, like *Jatharagni*, *Dhatvagni* becomes *Manda* (impaired) or *Dipta* (aggravated),

Causes of hypothyroidism & Hyperthyroidism

S.No	Hypothyroidism	Hyperthyroidism
1.	<ul style="list-style-type: none"> • Less iodine intake 	<ul style="list-style-type: none"> • Excessive consumption of iodine in food • Over intake of processed food.
	<ul style="list-style-type: none"> • Stress 	<ul style="list-style-type: none"> • Stress
	<ul style="list-style-type: none"> • Over response to hyperthyroidism treatment (hormonal supplements) 	<ul style="list-style-type: none"> • Thyroiditis- it is inflammation of thyroid gland causes over secretion of hormones
	<ul style="list-style-type: none"> • Autoimmune disease as Hashimoto’s thyroiditis • Thyroid surgery • Medications • Medications • Radiation 	<ul style="list-style-type: none"> • Thyroid nodules, grave’s disease, autoimmune disease may increase thyroid secretions

causing *Dhatu vruddhi* (excess accumulation) or *Kshaya* (waning).^[11]

The symptoms of *Dhatvagnimandya- Agninasha, Pandutwam, Aartavnasha, Sheetasatmya* etc.- might be connected with loss of appetite, anaemia, amenorrhoea, cold intolerance, and other symptoms of hypothyroidism. There is no direct reference of *Chikitsa* of hypothyroidism in Ayurveda but when we follow *Samprapti vighatana Chikitsa*, there is participation of *Mansika nidan*, which causes *Vata prakopa* and causes *Jatharagni mandya*, which causes *Dhatvagnimandya* and *Uttaroutar Dhatu dhusti*. It exhibits the characteristics of *Kaphavrita Samana Vata Dosh*a, *Dhatvagni Mandya, Bahudoshavasta*.

As a result, any disruption in these *Agni* results in ‘*Aama*’ production, i.e., poisons. If these toxins are not eliminated from the body, they can collect and impede subsequent nano metabolic processes at multiple levels, resulting in a variety of disorders. If *Jatharagni* is hindered, less *rasa* is created and more *Mala* (*Mala* form of *Rasa*) is formed, obstructing different *Srotas* (channels) and resulting in less nourishment development to the next level. Furthermore, if *Dhatvagni* is affected, this leads in *Dhatu dushti* as *rasa* and *Meda dushti* as seen in hypothyroidism. Similarly, when *Agni* rises, so does the consumption of *Dhatus* and *Rasa*, as observed in *Pitta prakopa* and hyperthyroidism, and without *Vata*, none of the movement occurs.

Thyroid Gland Disorder Can Cause

- Hypothyroidism
- Hyperthyroidism
- Hashimoto’s disease
- Grave’s disease
- Goiter (galganda)
- Thyroid nodules and malignancy

Symptoms of hypothyroidism & Hyperthyroidism

S.No.	Hypothyroidism	Hyperthyroidism
1.	• Weight gain	• Weight loss
2.	• Constipation	• Increase bowel movement
3.	• Cold intolerance	• Intolerance to heat
4.	• Heavy bleeding with cramps or irregular menstrual period	• Irregular menstrual cycle
5.	• Hair falls and thinning of hair	• hair loss
6.	• Bradycardia	• Increase heartbeat
7.	• Anorexia	• Increase appetite
8.	• Infertility	• Infertility
9.	• Elevated blood cholesterol	• High blood pressure

Treatment of Hypothyroidism

According to *Lakshana*, hypothyroidism is a '*Vata kapha pradhan vyadhi*', along with vitiation of *Agni* and *Sroto rodha*, which leads in numerous organ disorders. As a result, therapy focuses on regulating imbalances, particularly low *Agni (Agnimandya)*. *Agnimandya* therapy begins with digestion of undigested food (*Pachan*), then elimination of poisons (*Shodhan*), and finally maintenance of *Dosha* and *Dhatu* equilibrium (*Rasayan*). *Pachan* therapy consists of *Agni vardhak* medications (carmitive), *Laghu aahar* (lighter - easy to digest food) and relaxation.

Shodhan chikitsa also comprises *Panchakarma* such as *Virechan*, *Vaman*, *Basti* and *Nasya* according to *Doshas*, followed by a light diet plan known as *samsarjana karma*.

Other *Karma* includes *Swedana*, *Udvardana* for *Medo dushti* and *Shiro dhara* for stress relief, followed by medications to preserve *Dosha* and *Dhatu* equilibrium. *Yoga* and meditation are also practised to avoid lifestyle disruptions.

Management of Hyperthyroidism in Ayurveda

Ayurveda refers to hyperthyroidism as '*Vata pitta vyadhi*,' which states that vitiated *Vata* and *Pitta dosha* excite the *Jatharagni* (gastric fire), which raises metabolism and causes the symptoms listed above. The treatment of hyperthyroidism focuses on resolving *Tikshna Agni* and maintaining *Pitta* and *Vata* balance. Treatment involves lifestyle and dietary changes, as well as detox (*Panchakarma*) treatments, *Shirodhara*, *Nasya* and *Pitta vata shamak* herbo-mineral medicines. *Yoga*, *Pranayam*, and exercises have a very good influence on its therapy. Ayurveda is a very old science that not only cures the body but also the mind and spirit and keeps everyone happy and healthy.

Stress Management

Centella asiatica (*Brahmi*): *Brahmi* has the capacity to regulate the hypothalamic-pituitary-adenocortical axis, particularly during stress-related diseases.

Brahmi is high in antioxidants, which are compounds that stop free radical assaults and lessen the risk of degenerative illness.^[12]

Ashwagandha: It is anti-stress, anxiolytic, adaptogenic.^[13]

Shirodhara has been linked to a meditative state, with a decrease in catecholamine and an increase in serotonin reuptake hypothesised as one mechanism of action.^[14]

CONCLUSION

From this review we can conclude that Thyroid disorder is more common in women than in men. Stress, auto immune disorders, hormonal changes, *vegधारan*, iodine insufficiency plays a major role as a etiological factor in pathophysiology of hypothyroidism in females. *Chikitsa Sidhant of Nidan Parivarjan* can be used in management of thyroid disorder, so that patients can avoid the dependency on allopathic medicine. Management of stress and proper counselling of patient is essential for treatment of Thyroid disorders. *Yoga* practises such as asana, deep breathing, and meditation boost P.N.S. activation and contribute to mental calm.

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***Address for correspondence**

Dr. Bhagya Shree Potter

PG Scholar,

Department of Kriya Sharira,
M.M.M Govt. Ayurveda College,
Udaipur (Raj.)

Email:

bhagyashreepotter415@gmail.com

Mob. No: 9694315239

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