CURE OF GOITRE (THYROID DISORDER) BY HERBAL MEDICINES: A REVIEW

Nafeesa Begum¹ and B. R. Kiran²
¹Department of Botany, Sahyadri Science College (Autonomous), Shivamogga-577203, Karnataka.
²Research & Teaching Assistant in Environmental Science, DDE, Kuvempu University, Shankaraghatta, Karnataka, India.

ABSTRACT
Plants have proven to be useful in goitre disease. Metabolic disorder in human beings damage the functioning of the body. Medicines from the plants have the capacity to cure metabolic disorders including goitre. The main aim of this review paper is to summarizing the symptoms, types of thyroid diseases (goitre) and the chemical constituents of plants used in thyroid disorders.

KEYWORDS: Herbal plants, Thyroid disorders, goitre, Hypo and hyper thyroidism.

INTRODUCTION
A Goitre commonly develops as a result of iodine deficiency or inflammation of the thyroid gland. Goitre is cured in Ayurveda by herbal medicines in India. To achieve the goal of World Health Organisation upto 2025 health for all could be achieved by the curative treatments available in Indian systems of treatment.

Goitre disease is most common in forest and hilly areas. It is found to be hereditary in illiterate peoples and the persons who are using tank water (Rajesh Shukla, 1996).

CAUSE FOR THE DISEASE
Iodine deficiency is the main cause of the diseases especially in hilly areas. Other causes includes poverty, malnutrition, lack of knowledge about the disease and heredity factors. This disease is more dangerous in pregnant women. Infected women with goitre gives birth to disabled child.

Symptoms
- Swelling over the neck or gland
- Physical & mental development is blocked
- Patients found weak and dizziness
- Constipation and dry skin
- Unbearable / uncomfortable to hot and cold weather.
- Effects are over kidney, liver, heart muscles etc.
- Malnutrition

Pathology
Physically and mentally ill developed with air passage is covered by swelling of glands over the neck.
MORPHOLOGY OF GOITRE
Goitres may be classified according to the growth pattern or the size of the growth;

Growth pattern
- Uninodular goitre: Has one thyroid nodule.
- Multinodular goitre: It has multiple nodules (Frilling, A et al., 2004) and suppressing TSH-dependent growth and function in the rest of the gland (Gandolfi et al., 2004).
- Diffuse goitre: Thyroid appears to be enlarged due to hyperplasia.

Size
- Class I: It is found by palpation.
- Class II: It is palpable.
- Class III: The goitre is very large and is retrosternal.

Ayurvedic treatment
Rajesh Shukla (1996) mentioned the ayurvedic treatment method as
1. Kachnar Guggul – 3 tablets morning and evening with triphala kwath
2. Local application of
   a) Guggul (Commiphora mukul)
   b) Raswanti for local application
   c) Sulphur – on swelling of neck
   d) Ficus racemosa
3. Praval Pisti ½ gm
   - Ras manikya ¼ gm with milk 2 times/day
4. Argwadh Seeds – During night with hot water to remove constipation
   - Cassia fistula or Ocimum Sanctum and other plants used with urine of cow (Gomootra)
5. Surgery is possible now a days.

Diet:
- Green vegetables
- Milk
- Carrot, onion, Annona squamosa, Rich diet

Restricted Diet:
- Fish, Cabbage, Cauliflower, Brinjal, Ladys finger, Urad, Gram Dal etc.

Prevention of Goitre
- Diet should be protected seriously.
- Iodised salt should be used
- Marketing of ordinary salt is strictly prohibited
- Public awareness should be done about the disease.

Thyroid disorder
It can be categorised in two ways

1. **Hypothyroidism**
   - It means the suppression of thyroid function (Yarnell Eric and Abascal Kathy, 2006). Hypothyroidism divided into 2 ways primary and secondary hypothyroidism.
Dysfunction of thyroid gland, lack of TRH (hypothalamic TSH releasing hormone) and TSH (thyroid stimulating hormone) and inadequate nutrition of iodine diet are the important causes of hypothyroidism (Garg, 2005).

**Symptoms of Hypothyroidism**
The following are the symptoms of hypothyroidism
- Excessive weight gain
- Fatigue
- Dry skin, coarse & itchy
- Cold
- Low BP
- Swelling / Puffiness in hands, feet, eye and face
- Hair get dry, coarse & thin.

**Hyperthyroidism**
It is also known as thyrotoxicosis. It is the hyperactivity of thyroid gland, swollen the thyroid and the body process.

**Symptoms of Hyperthyroidism**
Common Symptoms are
- Skin becomes thin
- Hair becomes brittle
- Panic diseases
- Muscle weakness in upper arms and thighs
- Shaking hands
- Heart racing
- Weight loss
- Less frequent flow of menstrual periods (Garg, 2005, Palacios et.al., 2012; Mary Bove, 2012).

**Treatment of Hypothyroidism**
Following list of plants are used for the treatment of hypothyroidism
a) *Centella asiatica*
b) *Withania somnifera*
c) *Commiphora mukul*
d) *Piectranthus barbatus* (Brown & Francis, 2011; Garg,2005)
e) *Fucus vesiculosus*
f) *Bacopa monnieri*

**Plants used for Hyperthyroidism**
- *Lycopus virginicus*
- *Lycopus europaeus*
- *Lycopus lucidus*
- *Melissa officinalis*
- *Rosmarinus officinalis*
- *Salvia officinalis*
- *Aegle marmelos*
• *Aloe barbadensis*
• *Lithospermum ruderale*

**ANTITHYROID ACTIVITY OF HERBAL PLANTS**

Table 1 depicts the Chemical Constituent of Plants used in Thyroid diseases. Genistein and daidzein from soy (*Glycine max*) inhibit thyroperoxidase that catalyses iodination and thyroid hormone biosynthesis. Rutabaga and turnips contain a thiourea like product (progoitrin), a precursor of goitrin that also interferes with thyroperoxidase (Delange et al., 1989).

Genistein and daidzein from soyabean (*Glycine max*) inhibit the thyroperoxidase and also hypothyroid effects include *Pennisetum glaucum* and *Digitaria exilis*; thiocyanate is also found in Brassicae plants (Gustavo and Román, 2007).

The most helpful herbal remedies for the thyroid disorders are sea plants, bladder wrack, a form of kelp (Mary Shomon, 2012).

**CONCLUSION**

Goitre disease is common and it is treated by plants. Modern medicines are available for the treatment of this disease but these medicines are costly, non-affordable by the poor section and re-occurrence rate is also high. The safest and cheapest source of treatment includes the use of medicinal plants and easily affordable.

**REFERENCES**


https://en.wikipedia.org/wiki/

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<th>Table 1: Chemical Constituent of Plants used in Thyroid diseases (Anshita Gupta et al., 2016)</th>
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<td>Plant Name</td>
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<td>Lycopus virginicus</td>
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