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International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

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# Formulation and Evaluation of Herbal Thyrocure Powder

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**ABSTRACT:** Herbal thyrocure powder is the type of powder doasage form in which the drug is administered through oral route.The powder contains various type of herbs which helps in regulation of thyroid harmone and antiinflammatory ,immunomodulatory ,antibacterial,antioxidant,actions and improoves body metabolism in patients suffering from thyroid harmone deficiency and thyroid harmone imbalance which results to goiter,exophthalmos,grave's disease,thyrotoxicosis etc conditions cretinism,epiphysial dysgenesis and thyroid gland cancer like serious conditions faced.The drugs included are bauhinia variegate,withania somnifera,emblica officinalis,terminalia belerica,terminalia chebula coriandrum sativum.

**KEYWORDS:** Herbal Thyrocure Powder , Thyroid Harmone Imbalance, Bauhinia Variegate.

## I. INTRODUCTION

Thyroid disease is any dysfunction in the thyroid gland is known as thyroid disease or disorder. Thyroid gland located in thoracic cavity & having butterfly like structure. Thyroid gland was discovered by Thomas wharton in 1656. The thyroid gland activated by hormone TSH (thyrotropin) which is secreted by anterior lobe of pituitary gland also known as master gland controlled by hypothalamus. Thyroidglandsecretes3 hormonethyroxine(T4),Tri-iodothyronine(T3)&Calcitonine.The two are formely produced by thyroid follicles cells have similar biological activity & the term thyroid harmone "is restricted to these only.Calcitonin produced by **interfollicular "C"** cells and biologically different .The physiological significance of thyroid gland was recognized only after Grave"s & Basedow in 1835.Thyroxine was the first harmone to be synthesized in the laboratory. T3 (tri-iodothyronine ) was discovered in 1952.It is morepotent. Both T4&T3 are iodine containing derivatives of thyroxine which is a condesation product of two molecules of the amino acid tyrosine (MIT & DIT). Thyroxine is 3,5,3,5-tetraiodothyronine (T4).Tri-iodothyronine (T3) **is** 3,5,3tri-iodothyroxine. The thyroid hormone are synthesized & stored in the thyroid follicles of thyroglobuline molecule which is glycoprotein synthesized from thyroid cells. Molecular weight 660 K **d**a **c**ontains10% sugar**.** Thyroid hormone interact with the cells at three thyroid receptor( TR) sites.The nucleus where they cause transcription of m-RNA necessary for the synthesis of proteins (genomic actions). The affinity of T3 for TR"s is tenfold higher than for T4. Thethyroid harmonereceptors areclassifiedas TR□&TR□.TR□ are responsible for regulation of heart rate ,body temperature ,skeletal muscle functionand bone & intestine development.the normal range is 04-4.0 mIU/L.

TR□areinvolvedinlivermetabolism,negativefeedbackmechanism(athypothalamus– pituitary thyroid axis ) ,retina and ear development .The non-genomic actions of thyroid hormone at the plasma membrane and mitochondria occur early in the course of exposure of cells to thyroid hormone.T3actsonTR"sinvolvedincellularmetabolism. It also stimulates NO(nitricoxide ) productiions which is responsible for vasodilation .T4bindstoplasmamembranereceptorstoactivateMAP(mitogen–activatedprotein) kinase.Uncoupling of oxidative phosphorylation is not a physiological effect of thyroid hormone but plays a role in their calorigenic actions in pateints with thyrotoxicosis.DifferencebetweenT3&T4 overalleffectofT4 &T3 arequalitativelysimilar

## II. PHYSIOLOGCAL AND PHARMACOLOGICAL ACTIONS OF THYROID HARMONE

**Calorigenicactions**:
Thethyroidharmonestimulatexygenconsumptionsandheatproductionsinalltissueexceptthebrain,gonads,lymphnodes,spleen,thymus,dermis,Thyroidisusedinhypothyroidismindividuals.

Growth :The thyroid hormone are essentials for intrauterine tissue differentiations & aswell as extra terine.

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1.Intrauterine thyroiddeficiencycausesdefective braindevelopmentleadingto cretinism with mental retardation.

2.Deficiencyofthyroidhormoneappearingafterbirthleadstophysicalgrowthretardation characterized by a marked delay in the bone maturation (realated bone age).

A characteristic epiphyseal dysgenesis wherecalcification appears as multiple, small irregular foci causingstippled,porous ,fluffy in X-rays is also seen.It is associated with significant decrease in the serum alkaline phosphatase level.

**Conditions**

**Exophthalmos:**- (Bulgingeyes) is an auto-immune inflammation ofperiorbital tissues that affects the thyroid gland and can cause hyperthyroidism.

**Grave's disease:**-is an immune system condition that affects thyroid gland enlarged, shrinks become firm and less vascular.Most common in women under the age of 40 and symptoms like puffy eyes etc.

**Thyrotoxicosis:**-is due to excessive secretion of thyroid hormones .The main causes are grave's disease and IgG class of antibodies to the TSH receptor are detected in blood.

**Cretinism:-**intrauterine thyroid deficiency causes defective brain development with mental retardation.

**Epiphyseal dysgenesis**:-deficiency of thyroid harmone appearing after birth leads to physical growth retardation.

**Non-toxic goiter**:-It may be endemic or sporadic.Endemic is due to iodine deficiency which may be accentuated by factors present in water,food,milk (excess calcium,goitrin,thiocynates).

**Thyroidnodule:-**Certain benign functioning nodules regress whenTSH is suppresed by T4 therapy.Non-functional nodules should not traeated with levothyroxine.
**Goitrin:**-found in plants (cabbage,turnip,mustard etc.)is the cause of goiter in cattle who feed on these plants.May contribute to endemic goitrein ceratain iodine defecient regions.

**1.Hypothyroidism :**Hypothyroidism is a condition in which the thyroid gland does not produce enough thyroidhormones, leading to a slowdown in the body's metabolism. It is commonly caused by an autoimmune disorder called Hashimoto's thyroiditis, where the immune system attacks the thyroid
**Hypothyroidism Symptoms:** Fatigue Weightgain Cold intolerance Dryskin Hair thinning Depression
**Hypothyroidism causes:**Iodinedeficiency Certainmedications Previousthyroid surgery.Pregnancy Tumors Sugarintake Radiationtherapy
**Hypothyroidism Diagnosis:**
Hypothyroidismisusuallydiagnosedthroughbloodtestsmeasuringthyroidhormone levels and is managed with hormone replacement therapy to restore normal function.

**2.Hyperthyroidism:** Hyperthyroidismisa conditionwhere the thyroid gland producesexcessive amountsof thyroid hormones, speeding up the body's metabolism.
**Hyperthyroidism symptoms**
Unexplained weight loss Rapid heart beat Anxiety Irritability Excessive sweating Heat intolerance.
**Hyperthyroidism causes**
The most common cause of hyperthyroidism is Graves' disease, an autoimmune disorder where the immune system over stimulates the thyroid.Other causes include thyroid nodules or inflammation (thyroiditis).
Iodine excess Medications Pregnancy Tumors Sugar intake Radiation therapy
**Hyperthyroidism Diagnosis** Diagnosis is typically made **.**
Through blood tests that's how elevated thyroid hormone levels (TSH,T3,T4 etc.).

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## III. TREATMENT

**Anti-thyroiddrugs**
By convention only the hormone synthesis inhibitors are called antithyroid drugs.Anti-thyroid drugs bind to the thyroid peroxidase and prevent oxidation of iodide/ iodotyrosyl residues.Inhibits iodination of tyrosine residues in thyroglobuline. Inhibit coupling of iodotyrosine residue to form T3 and T4.

**Thioamides–**donotinterferewithtrappingofiodideanddonotmodifytheaction of T3 andT4 on peripheral tissue or on pituitary . propylthiouracil , methimazole , carbimazole neo- mercazole

**Ionicinhibitors**–certainmonovalentanioninhibitsiodidetrappingbyNIS-sodium/iodidesymporterintothethyroidbecauseofsimilarhydratedionicsize T4/T3.cannot be synthesized . perclorates.

**Iodine and iodides**-Though iodine is a constituent of thyroid hormone.It is the fastest acting thyroid inhibitor. lugol ‟ssolution , collosol , iodide(sodium&pot.).

**Radio active iodine**–the stable isotope of iodine is 127 I.Its radio active isotopes of medicinal importance is 131 Iphysical half life 8 days .the chemical behaviour of 131 I is similar to the stable isotopes .

**B-adrenergic blockers**-propranolol have as an imoirtant form of therapy to rapidly alleviate manifestations of thyrotoxicosis that are due to sympathetic over activity,viz-palpitation,tremor,nervousness,severe myopathy,sweating.propranolol

**Non selective B-blockers**–Propranolol are the most valuable measure .they afford dramatic symtomatic relief.they reduce peripheral conversion of T4 to T3,1-2 mg i.v. & 40-80 mg oral every 6 hours. propranolol .

**Propylthiouracil:**-200-300 mg oral 6 hours reduce harmone synthesis as well as T4 to T3 conversion .
**Corticosteroids**:-hydrocortisone 100 mg i.v.8 hourly followeed byoral prednisolone.Ipanoic acid:-0.5-1g OD oral or Ipodate are iodine containing radio constant media .they are potent inhibitor of thyroid harmone release from thyroid.

**Diltiazem:**-60-120 mg BD oral may be added if tachycardia is not controlled by propranolol alone or when it is contraindicated.

**Epidemiology**-Thyroid disorders are highly prevalent in India, with estimates suggesting that about 42millionpeople suffer from thyroiddiseases. Thisprevalenceisinfluencedbyfactors suchas genetics, iodine deficiency, and increasing awareness and diagnosis.Thyroiddisorders disproportionately affect women compared to men. Conditions likehypothyroidism and thyroid nodules are more prevalent among women, especially inreproductive age groups and during pregnancy.Thyroiddiseases,particularlyhypothyroidismandhyperthyroidism,representasignificanthealth burden in India. Here are some key points about the thyroid disease burden in India.There are significant geographical variations in the prevalence of thyroid disorders in India.iodine intake have higher rates of hypothyroidism, of autoimmune thyroid disorders likeGraves' disease.

## IV. MANAGEMENT

**Stress Management** Chronic stress and inadequate stress management techniques can adversely affect thyroid function. Stress activates the hypothalamic-pituitary-adrenal (HPA) axis, which can disrupt the hypothalamic-pituitary-thyroid (HPT) axis, leading to alterations in thyroid hormone levels.

**Physical Activity and Exercise** Regular physical activityis associated with improvedoverall health,including metabolic function and hormone regulation.Exercise can help in maintaining a healthy weight, which is crucial as obesity is linked to an increased risk of thyroid disorders, particularly hypothyroidism.

**Sleep Patterns** Quality sleep is crucial for overall health, including hormone regulation. Sleep deprivation and poor sleep quality can disrupt the HPT axis, affecting thyroid hormone production and metabolism. Disorders like sleep apnea have also been linked to thyroid dysfunction.

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**Smoking and Alcohol Consumption** Tobacco smoking and excessive alcohol consumption havebeen associatedwith an increased risk of thyroid disorders. Smoking, in particular, has been linked to autoimmune thyroid diseases and thyroid cancer. Alcohol can interfere with thyroid hormone synthesis and metabolism, contributing to thyroid dysfunction.

**Kanchnar**

Kachnar is commonly called as Orchid Tree, Varigated Bauhinia different languages it is called as: Kachnar consists of the dried, stem bark of Bauhinia variegata belonging to a medium sized. There are two varieties, red and white. The bark of both is alternative, tonic astringent.

**Synonym:**Kachna
**Family:**Leguminosae
**Common Name:**Kachnar
**Part used:**Bark

**Amla:** Large diciduous trees,withdistichous,linear oblong leaves.flowers greenish yellow ,infascicles on leafless branches .fruits globose,fleshy;seeds bony.
**Synonym:**Phyllanthus emblica L.
**Family**:Euphorbiaceae
**Common name** :Amla
**Parts used**: Pericarp of dried matured fruits
**Bhibhitaki** :It is botanically known as **Terminalia belerica.**
**Family**:Combretaceae
**Shape**:spherical to ovoid ,curved pieces , irregular shapes,convex external surface
**Colour:Wrinkled,grey and brown,pale yellow**
**Taste**:Astringent

**Harad :**It is botanically known as **Terminalia chebula.**
**Family:** Combretaceae
**Colour:**Yellowish brown
**Taste:** Astringent and bitter

**Aswagandha:** It is used as a general health tonic for elderly personsand lactating women. It is known for antiseptic properties and can be used as narcotic anti- epileptic, against female sterility.
**Synonym:Withania somnifera**
**Family**:Solanaceae
**Common name**: Asgandh
**Parts used:**dried roots
**Shape:**smaller size ,straight unbranched
**Colour:**outer surface is buff to grey yellow with wrinkles
**Odour:** characteristics
**Taste**:bitter and acrid

**Preformulation studies :**
**1.Organoleptic properties**
**a)colour**- The herbal Thyrocure powder was generally white to off-white in colour when seen from naked eyes.
**b)Odur**-The odour of thyrocure powder is aromatic .
**c)Taste** –The taste of Thyrocure powder is slightly bitter to pungent.
**d)Particle size**- The size of the powder can be analysed by electron microscope.

**2)Angle of repose:** With care ,dynamic angle of repose measurement can be replicated with relative deviation of approximately 2% they are particularly sensitive to change in particle size distribution and to moisture content and they provide rapid means of monitoring significant batch difference in these respells.

$$\theta = \tan^{-1} h/r$$

Where,

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θ=Angle of repose
H=Height of the pile
R=Radius of the base of the conical pile.
Angle of repose was determined by using funnel method .powder was paired from a funnel that cabn be raised vertically until a maximum cone heights,it was obtained .Diameter of heap,d was measured.The angle of repose calculated by above formula.

**Angle of repose as indicating of powder flow-properties**

| Angle of repose | Types of flow |
|---|---|
| <20 | Excellent |
| 20-30 | Good |
| 31-39 | Passable |
| >40 | Very poor |

**Table no.05**

**3)Bulk density-**bulk density is of great importance when one considers the size of dosage form product me homogeneity of how dose formulation in which where is large difference in drug and Excepient density is determined by pouring pre-sieved (40 sieve) bulk drug into a graduated cylinder via a large and measuring the volume and weight .The bulk density was calculated using equation:

pb=MV
where pb=Bulk density,
M=Mass of the granules in gram.
V=Final tapped volume of granules in ml.

**4) Tapped density**: After 50 and 100 taps the corresponding reading was observed to the nearest milliliters .The taped volume was ecorded when the difference between the two volume was smaller than 1 ml.

**5) Hausner's ratio**: Flow property was defined according to the Hausner ratio .Hausner ratio=(Tapped density )(Bulk density )Flow of powder was measured using a standard funnel .In a dry funnel ,whose bottom opening has been blocked,the sample was introduced without compacting .After removing the blockage from the bottom opening of the funnel ,the time taken for the entire sample to flow out through the funnel was measured
Hausner ratio = (Tapped density/Bulk density)

**6)Compressibility index** This was measured for the property of a powder to be compressed ,such they are measured for relative importance of inter –particulate interactions .compressibility index was determined by foloowing equation.
Compressibility index was determine according to carr's index
Carr's index =(Tapped density) –( Bulk density )*100 (Tapped density)

**7)Solubility Profile**:- By determining the solubility index of a sample ,it is possible to determine to what extent a pure substance can be dissolved in a solvent.

| | |
|---|---|
| Water | Soluble |
| Methanol | Fully soluble |
| Chloroform | Slightly soluble |
| Iso-propyl | Insoluble |

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**Formulation of Herbal Thyrocure Powder**

| Batch of ingredient | F-1 (mg) | F-2 (mg) |
|---|---|---|
| Kanchnar bark powder | 24 gm | 24 gm |
| Ashwagandha powder | 2.5 gm | 2.5 gm |
| Triphala Powder | 7.5 gm | 7.5 gm |
| Ginger Powder | 2.5 gm | 2.5 gm |
| Coriander powder | 2.5 gm | 2.5 gm |

**Method Of Preparation:** After performing preformulation studies and phytochemical screening of all the crude powdered drug . Get the drugs in the above measure,firstly triturate all the materials and sieve them to obtain a fine powder, and then fine powder of all ingredients are mixed together in given quntity measure and after evalute the powder then transferred to a well closed container and packed and labelled carefully.

**Preparation of ethanolic**, **acetonic and aqueous** extracts of ARP (Ashwagandha Root Powder) The powdered Ashwagandha root samples (50 g/250 mL) were extracted successively with methanol, acetone and water using soxhlet apparatus at 55-850C for 8-10 h in order to extract the polar and non-polar compounds (Elgorashi and Staden, 2004) [4]

## V. PHYTOCHEMICAL SCREENING OF EXTRACTS

**1. Test for Alkaloid Wagner's test**: About ten mg of extract was taken and few drops of Wagner's reagent (Dissolve 2 g of iodine and 6g of KI in 100 cm3 of water) was added and the formation of a reddish brown precipitate indicates the presence of alkaloids.
**2. Test for Flavonoid Lead acetate test**: Ten mg of extract was taken and few drops of 10% lead acetate solution was added. Appearance of yellow colour precipitate indicates the presence of flavonoids.
**3. Test for Tannin Ferric Chloride Test**: To 5 ml of the sample, a few drops of 0.1% ferric chloride were added. The presence of a brownish green or blue black colour indicated that the material possessed tannins.
**4.Test for Saponin Foam test**: 0.5 mg of extract was diluted with 20 ml distilled water and shaken well in a graduated cylinder for 15 min. The formation of foam to a length of 1 cm indicated the presence of saponins.
**5. Test for Carbohydrates** Fehling's test: Five ml of Fehling's solution was added to 0.5 mg of extract and boiled in a water bath. The formation of yellow or red precipitate indicates the presence of reducing power.
**6. Test for Glycosides Glycoside test:** 0.5 mg of extract was dissolved in 1 ml of water and then aqueous NaOH solution was added. Formation of yellow colour indicates the presence of glycosides. 2.6 Physical.

**Evaluation of herbal thyrocure powder**

**Physical properties of thyrocure powder**

| **Sr.no.** | **parameter** | **observation** |
|---|---|---|
| 1 | Colour | Buff to grey |
| 2 | Taste | Acrid,astringent |
| 3 | Odour | Characteristic,aromatic |
| 4 | Consistency | Fine powder |

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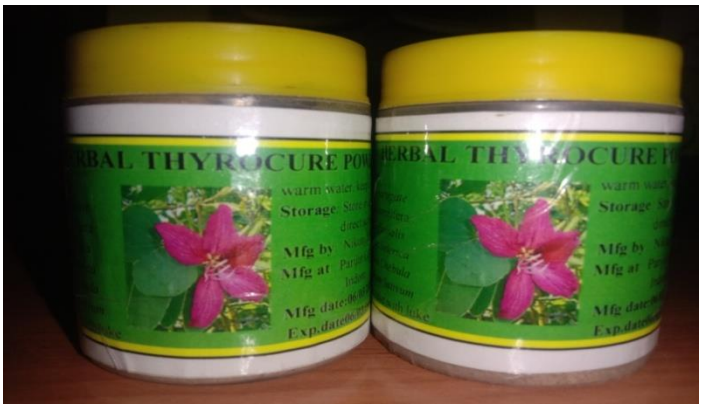
| Sr.no | Parameter | values |
|---|---|---|
| 1 | Loss on drying at 1050 C (%w/w) | 74% |
| 2 | 2 Total Ash Value(%w/w) | 5% |
| 3 | pH (5% Aqueous) | 8.3 |
| 4 | Tapped density | 2.68 gm/ml |
| 5 | Bulk density | 1.96gm/ml |
| 6 | Particle size | 98.1% (35.5 micron) |
| 7 | Solubility | Sparingly Water |
| 8 | Angle of repose | 20° |

**Phytochemical screening of thyrocure powder**

| Sr.no. | Test | Observation |
|---|---|---|
| 1 | Wagner's test | Alkaloid present |
| 2 | Lead acetate test | Flavanoid present |
| 3 | Ferric chloride test | Tannin present |
| 4 | Fehling's test | Carbohydrate present |
| 5 | Glycoside test | Glycoside present |



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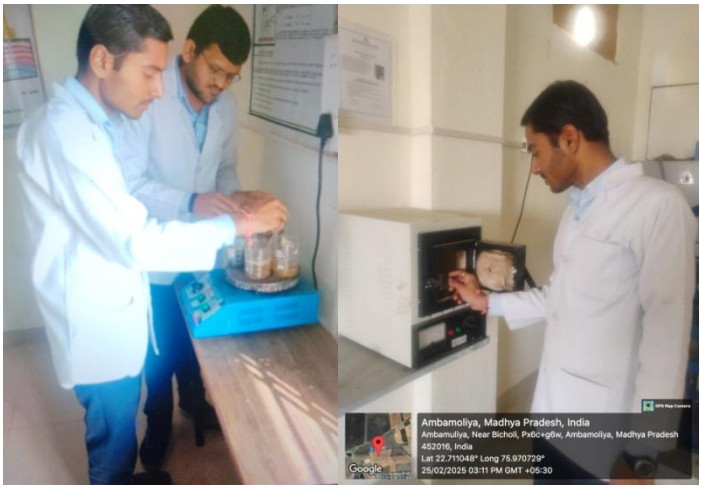


**Result and discussion:** The stem bark of Kanchanar and other herbs was collected and analysed the various standardization parameters preliminary phytochemical result showed the presence or absence of certain phytochemical in the drug the test performed using extracts through maceration and decoction phytochemical test revealed the presence of alkaloids flavanoides ,carbohydrates glycosides the detrioration time of the plant depend upon the amount of water present in plant material if the water content is high the plant can be easily detrioration due to fungus the loss on drying , Ash value ect. also result the water soluble extractive value was indicating the indicating the presence of sugar acids and inorganic compounds the alcohol soluble extractive value indicated the presence of Polar constants like phenols steroids the presence of pesticide Residue organ of chlorine pesticide organ of phosphorus pesticides and pirates for not detected in the plant samples.

## VI. CONCLUSION

Any formulation used medicinally requires a detailed study prior to its use. The therapeutic efficacy of the drug depends on the quality of the ingredients used for the preparation of the medicinal product. Kanchanara,triphala,ashwagandha,ginger,coriander powder was pharmacologically subjected for physicochemical, qualitative and analysis in accordance to standard operating procedures at a pharmacy. Raw materials of the drug were identified and authenticated prior to the preparation. The drug was subjected pharmacologically to physicochemical analysis, qualitative analysis. The groundwork for standardization of Kanchanara and other herbal drugs powder has been attempted in this study. The study concludes the standard organoleptic, physiochemical, phytochemical parameters of Kanchanara and other herbs mixture contained in thyrocure powder which will be helpful in future studies regarding to Kanchanara.

## REFERENCES

1. Gunjan and Prabhat kumar dwivedi et'al (2023) Action of kanchanar guugulu in the management of hypothyroidism International journal of Advance research page.no. 951-958.
2. Shailesh veer ,Sawate AR et'al (2019) Studies on quality assesment of ashwagandha root powder International journal of chemical studies page no .556-562.
3. Rupa Sengupta and Drashti desai et'al (2015) Physicochemical and preliminary phytochemicalstudies on kanchnar bark,Scholars research library page no. 67-75
4. Poonam G.Daswani et'al (2011)Preparation of Decoction of medicinal plants:A self –help measure ?,the journal of ternative and complementary medicines. page no.1099-1108.
5. Prachi Vishwakarma et'al (2022)Pharmaceutical analysis of Kanchnar & nano kanchnar stem bark powder in hypothyroidism,international journal of ayurvedic medicines.page no 384-387.
6. Aswini Pavithran et'al (2024) Role of triphala on gut microbiota in the treatment of obesity and its complications, International Journal of Ayurveda and Pharma Research page.no 97-110.
7. Critical Review on Galganda (hypothyroidism), by Chinmayee Mohanty.et al., published in IAMJ July 2022.

ISSN: 2582-7219 | www.ijmrset.com | Impact Factor: 8.206| ESTD Year: 2018|

International Journal of Multidisciplinary Research in Science, Engineering and Technology (IJMRSET)

(A Monthly, Peer Reviewed, Refereed, Scholarly Indexed, Open Access Journal)

8. 2. Sir Stanley Davidson. Davidson's Principles and Practice of medicine, edited By Nicki R. Colledge, Brian R.
9. Walker, Stuart H. Ralston, 20th edition. Elsevier Limited; 2010. Page no 750, page no 748
10. 3. S. Chandra et al, Conceptual study of hypothyroidism and Agnimandya, International General of Ayurvedic and
11. Herbal medicine5:4(2015) 1932-1931
12. 4. Susrutha, Susrutha Samhita, with Nibandha Samgraha commentary of SreeDalhana Acharya and NyayachandrikaPanchaka
13. of Sri Jayadasa Acharya and edit- ed by Vaidya Acharya Tri Vikram Ji Yadav Ji,
14. Chaukambaorientalia, Varanasi, edition-2019, Ni- danasthana 11/29, page no 315.
15. 5. Agnivesha, Charaka Samhita with Ayurveda Deepika commentary of Chakrapanidatta revised by Charaka and
16. Dridhabala, edited by Vaidya Yadav Ji Trivikram- ji Acharya, published by Chaukamba publishers, edition
17. 2020 sutrasthan, 20/17, pg. no.-115.
18. 6. Shukla V and Tripathi R, Editors, Charak Samhita, vol. 2, Chikitsasthana, Chapter 12, Verse 79, Delhi:
19. Choukhambha Sanskrit Pratisthan, reprint edition 2012; p-284.
20. 7. Kaviraj -Sri Govind das Sen virachitaBhaishajyaratnavali edited with ‘Siddhi Prada' Hindi commentary by Prof.
21. SiddhinanadanMishra, Chaukhambhasurbhartiprakashan Varanasi, edition: 2017,
22. galagandaprakaranakanchanaraGuggulu page no.
23. 8. Sarngadhara Samhita of Pandita Sarngadharacarya, annoted with Dipika Hindi Commentary, by Dr.
24. Brahmanand Tripathi , Madhayam khanda chapter 7th, verse 95-100, vatak Kalpana.

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