

## CLINICAL EVALUATION OF HYPOTHYROIDISM THROUGH KANCHNAR GUGGULU AND TRIPHALADI GUGGULU

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## ABSTRACT

Hypothyroid<sup>1</sup> is a condition in which there is biochemical evidence of deficiency of thyroid hormone, the prevalence of Hypothyroid in the developed world is about 4-5%. According to Ayurveda metabolism in the body is principally related to *Agni*, any deviation in the function of *Agni* is called *Agnimandya*<sup>2</sup>. India has a high prevalence of Hypothyroidism, which is about 10%. Still, there is no radical cure for Hypothyroidism and the current treatment is only the replacement of the hormone. According to *Ayurveda*, *Dhatwagnimandya* is the root cause of, and it is included in *Granthi Vikara*<sup>3</sup> Here 30 subjects of Hypothyroid were taken in two groups A and B, with 15 subjects in each group. Group A. received *Kanchanar guggulu*<sup>4</sup> for 45 days &. Group B received *Triphaladi guggulu*<sup>5</sup> for 45 days.

**Keywords:** Hypothyroid, *Agnimandya*, *Granthi vikara*, *Kanchanar Guggulu*, *Triphaladi Guggulu*.

## INTRODUCTION

Hypothyroid refers to any state those results in deficiency of thyroid hormone, including Hypothalamus or Pituitary disease and generalized tissues resistance

to thyroid hormone and disorders that affect the thyroid gland directly. The prevalence of Hypothyroidism, in the developed world, is about 4-5%, India has

a high prevalence of Hypothyroidism, which is 10%<sup>1</sup> In Ayurveda there is no direct correlation regarding Hypothyroidism but based on its clinical presentation it can be correlated with different entities as symptoms or as a disease, so it is difficult to give a single Ayurvedic term as there are many systems are involved in the pathogenesis of Hypothyroidism. According to Acharya Charak. It is not necessary to label certain diseases, but it is important to understand the possible pathogenesis of the disease in terms of Dosh, Dhatu, Mala, & Agni. Hence can be correlated with, *Ashtoninditiya purusha*<sup>2</sup>, *Galaganda*<sup>3</sup>, *Kaphavruddhilakshana*<sup>4</sup> *Rasapradoshaja Vikara*<sup>5</sup> AS the cardinal symptoms of Hypothyroidism are weight gain, fatigue, cold intolerance, hoarseness of voice, Dryness of skin, Hair fall, Pallor, Muscle aches and puffiness of the face, weakness, lethargy, Menstrual Distributions<sup>6</sup>. In the present article, Hypothyroidism can be correlated to *Kapha Vridhhi Lakshana* in the present study, 30 patients were selected incidentally and placed randomly into two groups, Group A and Group B, with 15 subjects in each group, classical signs and symptoms from the main diagnostic criteria and were also studied for assessment criteria.

Group A received *Kanchar Guggulu* 15 days with intervals of 3 times total of 45 days with a dose of 1 od before food in the morning

Group B re Group A received *Triphaladi Guggulu* 15 days with intervals of 3 times total of 45 days with a dose of 1 od before food in the morning

### Objective

1. To evaluate the efficacy of *Kanchar Guggulu* and *Triphaladi Guggulu* on T<sub>3</sub>T<sub>4</sub> and TSH levels.
2. To compare the efficacy of *Kanchar Guggulu* and *Triphaladi Guggulu* on T<sub>3</sub>T<sub>4</sub> and TSH levels.
3. To evaluate the efficacy of *Kanchar Guggulu* and *Triphaladi Guggulu* on Weight and BMI

**Table 1:** Showing intervention of Group A

Shamanoushadi	<i>Kanchar Guggulu</i> 1 tab of 250 mg daily one before food for 45 days
Treatment duration	45 days
Follow up	Every 15 <sup>th</sup> day

### Materials & Methods

**Literary Source:** Literature related to disease and drugs was reviewed by collecting information from various books of Modern medicine, *Samhita* & other classical books of *Ayurveda*

### Clinical Source

The patients were selected from *Kayachikitsa* OPD and IPD of *Ayurveda Mahavidyalaya* Hubli, Hospital Drug Source- *Kanchar Guggulu* and *Triphaladi Guggulu* is Purchased from RGUHS University of Health Science for a Silver Jubilee

**Method-** Study design: Randomized controlled Study

### Inclusion Criteria:

1. Diagnosed cases of Hypothyroidism based on serum T<sub>3</sub>, T<sub>4</sub> and T.S.H. levels
2. Patient of either sex with age limitation of 20 to 60 years
3. Patients having a B.M.I. 25 -30 (moderate obesity)
4. Patients having clinical features of Hypothyroidism

### Exclusion criteria

1. Patients with ischemic heart disease, myocardial infarction.
2. Subjects who underwent Thyroidectomy, Pregnant and Lactating mothers will be excluded.
3. Subjects with any other systemic disorders interfering with the course of treatment will be excluded.
4. Subjects with HIV, HbsAg and Uncontrolled Diabetes
5. Subjects with Graves' disease

Plan of Study -A total of 30 patients who fulfilled the inclusion criteria were selected, the patient is randomly divided into two groups. Informed consent was taken from each patient before the commencement of medicine.

**Table 2:** Showing intervention of Group B

Shamanoushadi	Triphaladi Guggulu 1 tab of 250 mg daily one before food for 45 days
Treatment duration	45 days
Follow up	Every 15 <sup>th</sup> day

**ASSESSMENT CRITERIA:** Improvement in Subjective & Objective of Hypothyroidism will be assessed before & after the treatment

**SUBJECTIVE PARAMETER:**

**Table 3:** Showing Gradings of Subjective Parameters

Grading of subjective symptoms	Scoring	BT (1st DAY )	OBSERVATION		AT (45th DAY)
			15th DAY	30th DAY	
<b>1</b>	<b>Bodyweight</b>				
	0- BMI.18.5 TO 24.9				
	1-BMI-25 TO 29.9				
	2- BMI – 30 TO 40				
<b>2.</b>	<b>Weakness</b>				
	0-No weakness felt day to day activities				
	1-Finding difficulty doing day to day activities				
	2-Not able to do day-to-day activities				
<b>3</b>	<b>3-Not able to do shelf activity</b>				
	<b>Loss of appetite</b>				
	0-good appetite				
	1-Quantaum reduced food reduced				
<b>4</b>	2-Irregular food habits				
	3-Complete loss of interest in food				
	<b>Menstrual disturbances</b>				
	0-28 cycle with 5 days flow menstrual period				
<b>5</b>	The 1-Normal cycle of 28 days with a decreased menstrual period of 2 days				
	2- Normal cycle of 28 day's with a 1-day menstrual period or spotting				
	3-Abnormal cycle and abnormal bleeding				
	<b>Cold intolerance</b>				
<b>6</b>	0-normal				
	1-Intolerance to cold weather				
	2- Intolerance to cold weather and cold foods				
	3- Intolerance to cold weather, cold foods and wants warm clothing always				
<b>6</b>	<b>Pallor</b>				
	0-Normal				
	1-Pallor at conjecture				
	2- Pallor at Conjecture and nail bed				
	3-Pallor at conjecture nailbed and toughe				

**TABLE 4:** Objective Criteria

Si.no	Parameters	Period of Assessment
1	T <sub>3</sub> T <sub>4</sub> TSH	Day,1 <sup>st</sup> ,45 <sup>th</sup>
2	Weight and BMI	Day 1 <sup>st</sup> ,15 <sup>th</sup> ,30 <sup>th</sup> and 45 <sup>th</sup>

**Results-** A total of 32 Subjects of Hypothyroid were registered, out of which of 30 subjects completed .2 subjects dropped out between the treatment. The objective and Subjective parameters are recorded before the treatment and after the treatment and subjects to

statistical analysis within the group by applying paired "t" test and between-group by applying Unpaired "t" test using GraphPad Prism statistical software.

**Table 5:** Showing Gender wise Distribution

GENDER	Group A		Group B		Total no. of patients	%
	No. of Pts	%	No. of Pts	%		
Male(M)	8	53.33	0	00	8	26.67
Female(F)	7	46.67	15	100	22	73.33

**Table 6:** Showing Effect of the therapy on subjective and objective parameters in Group A

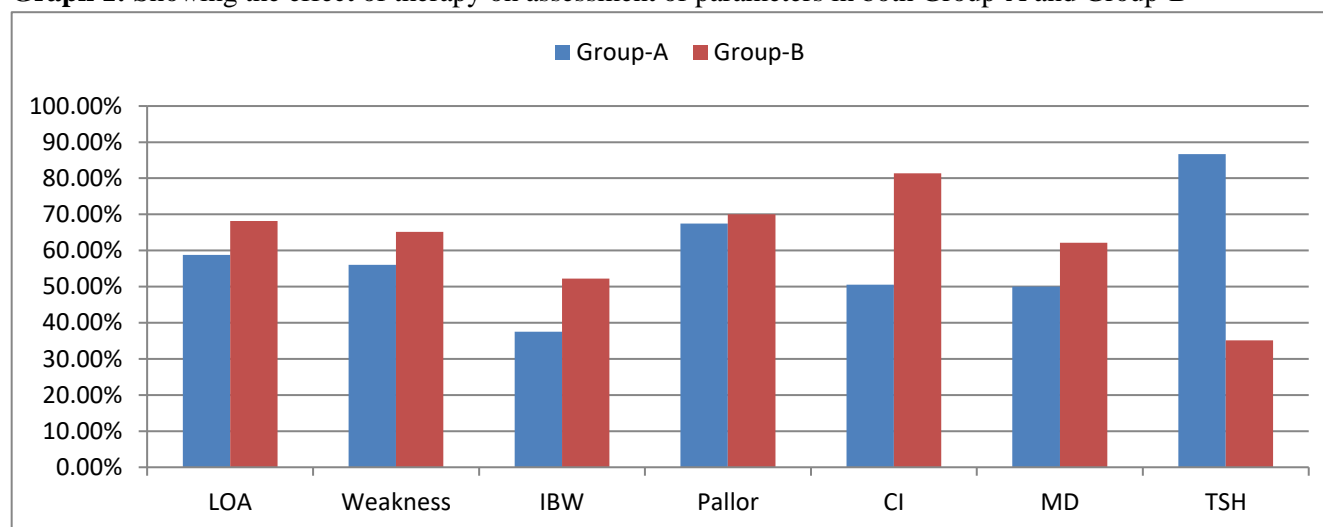
Parameter	Mean		Mean diff	% Improvement	S.D.	S.E.	“t”	P value	Remarks
	B.T.	A.T							
1.LOSS OF APPETITE	0.8	0.33	0.47	58.75	0.52	0.13	3.50	=0.0035	H.S.S.
2.WEAKNESS	1.50	0.73	0.93	51.03	0.59	0.15	6.08	<0.0001	H.S. S
3.INCREASED BODY WEIGHT	2.4	1.5	0.87	37.5	0.52	0.13	6.50	<0.0001	N. S
4.PALLOR	0.8	0.26	0.53	67.5	0.52	0.13	4.00	=0.0013	H.S. S
5.Cold intolerance	0.93	0.46	0.47	50.53	0.64	0.17	2.82	=0.0135	H.S. S
6.Menstrual Disturbance	0.66	0.33	0.33	50.00	0.62	0.16	2.09	=0.0552	NS
7.TSH	1.5	0.20	1.3	86.66	0.97	0.21	5.94	<0.0001	H.S. S

\*BT-Before treatment, \*AT- After Treatment, \*S.D.-Standard Deviation \*S.E.-Standard Error, H.S.S.-Highly statistically significant\* SS-Statistically Significant\*NS-Not Statically Significant

**Table 7:** Showing Effect of the therapy on subjective and objective parameters in Group B

Parameter	Mean		Mean diff	% Improvement	S.D.	S.E.	“t”	P-value	Remarks
	B.T.	A.T.							
1. LOSS OF APPETITE	1.46	0.46	1.07	68.18%	0.80	0.21	5.17	=0.0001	H.S. S
2. WEAKNESS	1.53	0.53	1.00	65.12%	0.53	0.14	7.24	<0.0001	H.S.S.
3. INCREASED BODY WEIGHT	2.6	1.13	1.47	52.77%	0.52	0.13	11.00	<0.0001	H.S.S.
4. PALLOR	1.4	0.46	0.87	70.00%	0.64	0.17	5.24	=0.0001	H.S. S
5. Cold intolerance	1.4	0.26	1.20	81.4%	0.94	0.24	4.93	=0.0002	H.S.S.
6. Menstrual Disturbance	1.4	0.53	0.87	62.14%	0.92	0.24	3.66	=0.0025	H.S.S.
7. TSH	1.85	1.2	0.65	35.13	1.386	0.310	2.09	=0.0503	N.S. S

**Graph 1:** Showing the effect of therapy on assessment of parameters in both Group-A and Group-B



Comparative Efficacy of therapy Between Group-A and Group-B Using Unpaired “t” Test, let us assume that  $H_0$ =Triphaladi Guggulu is more effective than the Kanchnar Guggulu in the management of Hypothyroidism.  $H_1$ = Kanchnar Guggulu is more effective

than the Triphaladi Guggulu in the management of Hypothyroidism, to rule out this assumption whether to accept or not, we have to find the “t” value using the formula Unpaired student “t” test method.

**Table 8:** COMPARATIVE EFFICACY OF THERAPIES ON SUBJECTIVE & OBJECTIVE PARAMETERS Using Unpaired “t” Test

Sl. No.	Parameters of Assessment	Group A			Group B			‘t’	P	Remarks
		Mean	S.D. (±)	S.E. (±)	Mean	S.D. (±)	S.E. (±)			
1	LOSS OF APPETITE	0.60	0.51	0.13	1.07	0.80	0.21	1.91	=0.0664	NSS
2	WEAKNESS	0.93	0.59	0.15	1.00	0.53	0.14	0.3232	=0.7489	NSS
3	INCREASED BODY WEIGHT	0.87	0.52	0.13	1.47	0.52	0.13	3.18	=0.0036	NSS
4	EASY FATIGABILITY	0.93	0.59	0.15	1.20	0.77	0.20	1.058	=0.299	NSS
5	PALLOR	0.53	0.52	0.13	0.87	0.64	0.17	1.57	=0.1277	NSS
6	COLD INTOLERANCE	0.47	0.64	0.17	1.20	0.94	0.24	2.4956	=0.0187	SS
7	MENSTRUAL DISTURBANCES IN FEMALES.	0.33	0.62	0.16	0.87	0.92	0.24	1.870	=0.0719	NSS
8	TSH	1.13	0.83	0.22	0.33	1.18	0.30	2.15	=0.040	SS

**Table 9:** Shows the overall improvement

Subjects	Remark
Marked improvement	75-100%
Moderate improvement	50-75%
Mild improvement	25-50%
No improvement	Below 25%

## DISCUSSION

Total 32 subjects of Hypothyroid were registered, out of which 30 subjects completed the treatment.

Group- A received *Kanchnar Guggulu* 15 days with intervals of 3 times total of 45 days with a dose of 1 od before food in the morning. Group B re Group A received *Triphaladi Guggulu* 15 days with intervals

of 3 times total of 45 days with a dose of 1 od before food in the morning. as it's a *Kapha Pradhana Vyadhi* Acharya Vaghabhata says a *Kaphaathrike Ananam* so the Oushda kala<sup>7</sup> is Given as a Before food.

While comparing the both Group, in Subjective Parameter Group B is more Effective than the Group-A as in Group A enrolment of Male patients is more, than group-B by this can conclude that condition of disease is more severe in female rather than Male, as some feminine factors like pregnancy, post operating condition, menopause etc. Were predominant factors. So, the hormonal Imbalance is more in females. The mean for Group A before Treatment is less than Group-B

And in Objective parameters is more prominent in Group-A rather than Group -B.

As in Hypothyroid is *Kaphapradhan Vyadhi* so drug having of *Deepan, Panchana, kaphahara*, should be used while explaining the *Triphaladi Guggulu* in *Yogaratanakara*<sup>8</sup>. Mentioned *Trikatu, Triphala Guggulu, Kanchnar Twaka Churna* whereas in *kanchnar Guggu*<sup>9</sup> it has an apart from above ingredients it contains a *Varuna 1 pala Twaka, Ela, Tejpatra* each one *Karsha* compared to *Triphaladi Guggulu* *Kanchnar Guggulu* has the property of more of *Kapha Hara, Meda Hara* and *Deepan* and *Panchana* Hence the *Kanchnara Guggulu* has a better result in the TSH value.

## CONCLUSION

This study was conducted to analyze the effect of *Kanchnar Guggulu*, and *Triphaladi Guggulu* in the management of Hypothyroid.

Hypothyroid can be correlated to *Kaphaja Vyadhi*, it was found more Prevalent in Females age group of 31-40 years.

*Triphaladi Guggulu* and *Kanchnara Guggulu* are mentioned under the *Galaganda prakarana* which is also one of the *Kaphaja Nanatamaja Vyadhi*<sup>10</sup>

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