ISSN: 2322 - 0902 (P)
ISSN: 2322 - 0910 (O)

International Journal of Ayurveda and Pharma Research

Research Article

ROLE OF *KANCHANARA TWAKA KWATHA* WITH *SHUNTHI CHURNA* IN HYPOTHYROIDISM (*DHATUWAGNI VIKRITI*)

Radha Joshi[1]*, OP Singh[2], Sanjay Kumar Tripathi[3]

*[1]1PG Scholar, [2]Professor and Head, [3]Professor, PG Department of Kayachikitsa, Rishikul Campus, Haridwar, India.

Article info

Article History:
Received: 29-08-2023
Accepted: 22-09-2023
Published: 05-10-2023

KEYWORDS:
Kanchanara, Shunthi, Agni, Hypothyroidism, *Dhatuwagni Vikriti.*

ABSTRACT

The thyroid is an important part of human endocrine system which are responsible for regulation of oxygen use, BMR, cellular metabolism and growth and development. Hypofunctioning of *Jatharagni* which in turn effect *Dhatwagni* eventually brings out pathological sequence and ultimately the disease condition develop. In hypothyroidsim etiological factors mainly vitiate *Tridosha* (*Kapha* predominance along with *Pitta* vitiation and *Margavarana* leading to provoking of *Vata*). The line of treatment with specific target to *Rasavaha, Mamsavaha, Medovaha, Manovaha Srotas* as well as *Vata-Kapha Nashaka, Agnideepan, Sroto Shodhana, Vatanuloman, Amapachan* treatment should be administered in hypothyroidism. Keeping the same in mind, present study was carried out to assess the role of *Kanchanara Twaka Kwatha* with *Shunthi Churna* in hypothyroidism *(Dhatuwagni Vikriti).* For this study 40 patients were selected and are divided into two groups with 20 patients in Each group on the basis of inclusion and exclusion criteria and were assessed on the basis of subjective and objective parameters by applying appropriate statistical test. Most of the patients in group 1 (*Kanchanaradi Kwatha*) shows marked improvement in their symptoms as well as in objective parameters (thyroid profile) as compared to group 2 (Tab. Levothyroxine 50 mcg) which was taken as control group. From this study it can be concluded that hypothyroidism can be managed effectively with *Kanchanara Twaka Kwatha with Shunthi Churna* mention in *Sharangdhar Samhita Madhyam Khanda Adhyaya* 2 *Shloka* no.126.

INTRODUCTION

It is a common disorder and prevalence of overt hypothyroidism has been reported as 3.5% to 4.2%. According to projection from various studies on thyroid disease in India 42 million people are suffering from thyroid disorder, out of which subclinical Hypothyroidism is most common with prevalence of 9.4%. According to WHO 2 billion people are iodine deficient worldwide. Hypothyroidism occurs in 1in 4000 newborn worldwide and 1 in 2640 newborn in India. In women, the prevalence was higher, at 11.4% when compared with men, in whom prevalence was 6.2%. The prevalence increases with age and is higher in females than in males (6:1).[1]

Access this article online

Quick Response Code

https://doi.org/10.47070/ijapr.v11i9.2947

The drug chosen for study is *Kanchanara Twaka Kwatha* with *Shunthi Churna* mention in *Sharangdhar Samhita Madhyam Khanda Adhyaya* 2 *Shloka no.126* it contains *Kanchanara* and *Shunthi.*[2]

Drugs mention above have *Agnideepan, Srotosodhak, Vatanuloman, Medohara, Amapachak* properties.

The assessment of effect of *Kanchanara Twaka Kwatha* with *Shunthi Churna* in patients of hypothyroidsim is the chief objective of the study with the replacement of the modern drugs by a safe and effective alternative in Ayurveda.

AIMS AND OBJECTIVES

- To study the etiopathogenesis of hypothyroidism.
- To evaluate the efficacy of *Kanchanara Twaka Kwatha* with *Shunthi Churna* in the management of hypothyroidism.
- To provide a reliable, safe and cost effective Ayurvedic treatment for hypothyroidism.

MATERIAL AND METHODS

Selection of patients

Patients with clinical features of the hypothyroidism attending the OPD of *Kaya Chikitsa* Department of "Rishikul Campus" Hospital, UAU Haridwar, will be selected randomly for this clinical study, irrespective of sex, religion, occupation, etc. A detail proforma will be prepared on the basis of the Ayurvedic text and allied sciences. The patient fulfilling the inclusion and exclusion criteria will be registered on this proforma and scoring of the different clinical features will be done on the assessment criteria.

Type of study: Open randomized controlled trail

Level of study: OPD and IPD level

Period of study: 18 months (1 ½ year)

Duration of treatment: 90 days

Method of treatment/intervention

a. Selection of Drug- *Kanchanara Twaka Kwatha* with *Shunthi Churna*

Group 1: 20 patients will be selected randomly are given *Kanchanara Twaka Kwatha* 50ml with *Shunthi Churna* 2gm BD with equal amount of water.

Group 2: 20 patients will be given Tab. Levothyroxine 50µgm OD before meal.

b. Form of Medicine - *Kwatha, Churna*

c. Composition of medicine

The constituents of *Kanchanara Twaka Kwatha* are *Kanchanara Twaka* and *Shunthi Churna.*

d. Dose of medicine- *Kanchanara Twaka Kwatha* is 50ml and *Shunthi Churna* 2gm BD with equal amount of water.

e. Route of Administration- Oral

Assessment Criteria

The assessment was done 6 times at the interval of 15 days.

Table 1: Grading of Subjective Parameters

Subjective Parameters	Grade 0	Grade 1	Grade 2	Grade 3
Weight gain	No weight gain	Slight tightening of clothing	Unable to wear already stitched clothes	Rapid weight gain with excessive fat deposition
Cold intolerance	Normal: absence of cold intolerance	Mild: not like AC or cold wave	Moderate: not like fan or hyperventilated area	Severe: like to wear warm clothes in summer
Dry skin	No dryness	Dryness after bath only	Dryness all over body but relieved by oil application	Dryness not even relieved by oil application
Constipation	Normal bowel habit	Passes stools daily but with slight difficulty	Passes hard stools on alternate days	Patient need some laxative to pass stool
Menstrual disturbances 1. Duration of menses	4-7 days	3 days	2 days	1 days
2. Interval	25-29 days	35-39 days	40-45 days	>45 days
Agni bala				
1. *Jaran Shakti*	Good quantity thrice a day	Reduction up to 25%	Reduction up to 50%	Reduction up to 75%
2. *Abhyavaharan Shakti*	Presence of all symptoms	Presence of any 4 symptoms	Presence of any 3 symptoms	Presence of any 2 symptoms

Objective Criteria

1. Serum. TSH, total T4, Total T3 value.

Follow Up

The follow up was done at the interval of 15 days after completion of trail.

Inclusion Criteria

1. Diagnosed cases of Hypothyroidism on the basis of serum TSH, $T_{3\ and}$ T_4 levels.
   - Patient's serum TSH level > 4.5mIU/L upto 15mIU/L.
   - Total serum T_4 level normal or less than normal value (Total serum T_4= 4.5 – 12.5mg/dl).
   - Total serum T_3 level normal or less than normal value (Total serum T_3= 80- 220ng/dl).

2. Under the age of 20 – 60 yrs.
3. Patient who are freshly diagnosed as hypothyroidism.
4. Patient who are ready to switch over the Ayurvedic medicine and sign the informed consent form.
5. Patients who are already diagnosed as Hypothyroidism and under Thyronorm (Levothyroxine) medication 50µgm but presenting with diagnostic criteria are included.
6. Chronicity less than five years are included.

Exclusion Criteria

1. Patient who have undergone any type of thyroid surgery.
2. Patient suffering from systemic diseases like cardiac problem, diabetes, carcinomas.
3. Patient suffering from congenital hypothyroidism and secondary hypothyroidism.
4. Pregnant women, hyperthyroidism, neoplasia, toxic goiter are excluded.
5. Chronicity above 5 years.
6. TSH value above 15 mIU/L

Criteria for Withdrawal

1. Personal matter
2. Aggravation of complaints
3. Intercurrent illness
4. Any other difficulties
5. LAMA (patient leave against medical advice)

Investigations

- ✓ Hb gm%, TLC, DLC, ESR
- ✓ Random Blood Sugar
- ✓ Thyroid profile
- ✓ Lipid profile
- ✓ SGOT, SGPT
- ✓ Blood Urea
- ✓ Serum Creatinine
- ✓ Urine – Routine and Microscopy

OBSERVATION AND RESULTS

Statistical analysis

- Wilcoxon Signed Rank Test was applied on the subjective parameters.
- Paired‘t’ test was applied on objective parameters.
- The tests were carried at the level of 0.05, 0.01, 0.001 level of p.
- For inter group comparison of subjective parameters, Mann Whitney ‘U’ test was used.
- For inter group comparison of objective parameters unpaired ‘t’ test was used.

Assessment of overall effect of the Therapy

All the B.T. score of the above mentioned symptoms and thyroid profile parameters of the patient were added.

All the A.T. score of the above mentioned symptoms and thyroid profile parameters of the patient were added.

Overall percentage improvement of each patient was calculated by the following formula:

$$\frac{\text{Total BT-Total AT}}{\text{Total BT}} \times 100$$

Over-all Assessment of Therapy

The result thus obtained from individual patient was categorized according to the following grades:

Excellent ≥ 75% relief

Marked Improvement ≥ 50% up to 74% relief

Mild improvement ≥ 25% up to 49% relief

No improvement ≤ 24% relief

Table 2: Demographic Distribution of Patients

S.No	Features	No. of patients	Percentage
1.	Age (30-40) and 41-50	13 each	32.5 % each
2.	Sex (Female)	36	90%
3.	Religion (Hindu)	35	87.5
4.	Marital Status (Married)	35	87.5%
5.	SES (Middle class)	28	70%
6.	*Agni (Mandagni)*	22	55%
7.	*Koshtha (Madhyama)*	21	52.5%
8.	*Deha prakriti (Kapha-vataja)*	25	62.5%
9.	*Abhyavaran shakti*	15	40%
10.	*Jarana shakti*	16	40%
11.	Bowel (constipated)	22	55%
12.	Emotional makeup (stress)	13	32.5%

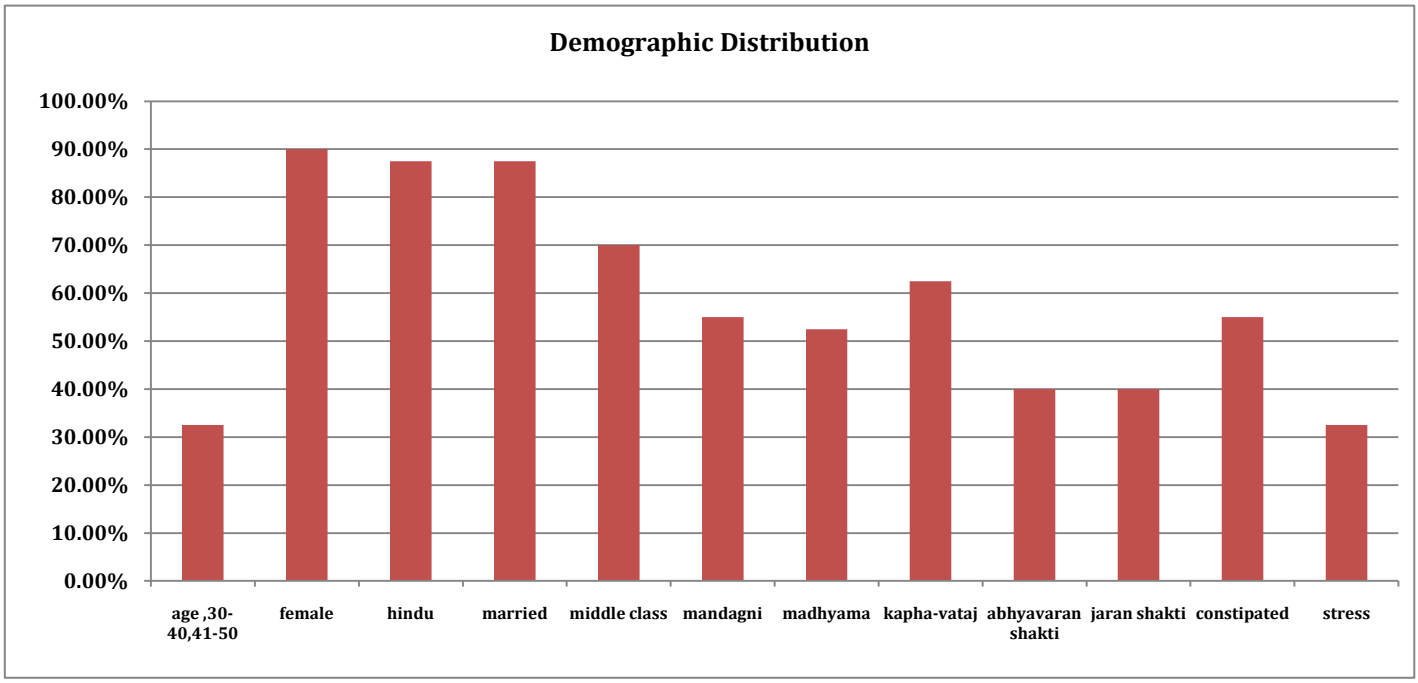

Table 3: Sign and Symptoms Wise Distribution of 40 Patients of Hypothyroidism

Sign and Symptoms	Group 1	Group 2	Total	Percentage
Weight gain	14	9	23	57.5%
Cold intolerance	10	5	15	37.5%
Dry skin	15	15	30	75%
Constipation	14	13	27	67.5%
Menstrual disturbances	11	6	15	42.5%
Puffiness under eye	9	10	19	47.5%
Edema	2	3	5	12.5%
Muscle ache	13	13	26	65%
Hoarseness of voice	9	7	16	40%
Hair fall	13	14	27	67.5%

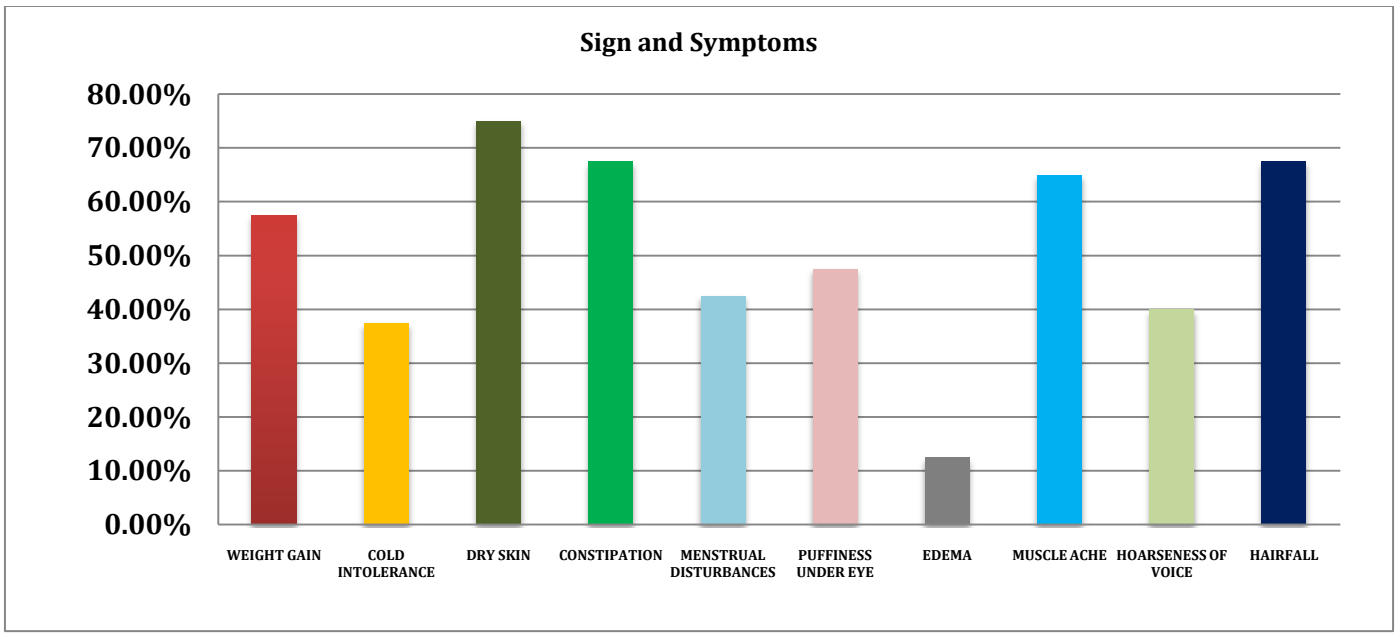

Table 4: Assessment of Result of *Kanchanara Twaka Kwatha* with *Shunthi Churna* in Hypothyroidism (group 1)

Subjective parameter	Mean		Median		Wilcoxon Signed Rank W	P- Value	% Effect	Result
	BT	AT	BT	AT				
Weight gain	1.2	0.30	1.00	0.00	-3.626[b]	0.000287	75.00	Highly Significant
Cold intolerance	0.40	0.00	0.00	0.00	-2.828[b]	0.004678	100.00	Significant
Dry skin	1.20	0.05	1.00	0.00	-3.906[b]	0.000094	95.83	Highly Significant
Constipation	1.30	0.15	1.00	0.00	-3.906[b]	0.000094	88.46	Highly Significant
Menstrual disturbances	0.41	0.06	0.00	0.00	-2.449[b]	0.014306	85.71	Significant
Puffiness under the eye	1.15	0.10	1.00	0.00	-3.384[b]	0.000715	91.30	Highly Significant
Edema	0.05	0.00	0.00	0.00	-1.000[b]	0.317311	NA	Not significant
Muscle ache	1.25	0.20	1.00	0.00	-3.666[b]	0.000246	84.00	Highly Significant
Hoarseness of voice	0.50	0.00	0.00	0.00	-2.887[b]	0.003892	100.00	Significant
Agni bala	0.95	0.00	1.00	0.00	-3.945[b]	0.000080	100.00	Highly Significant

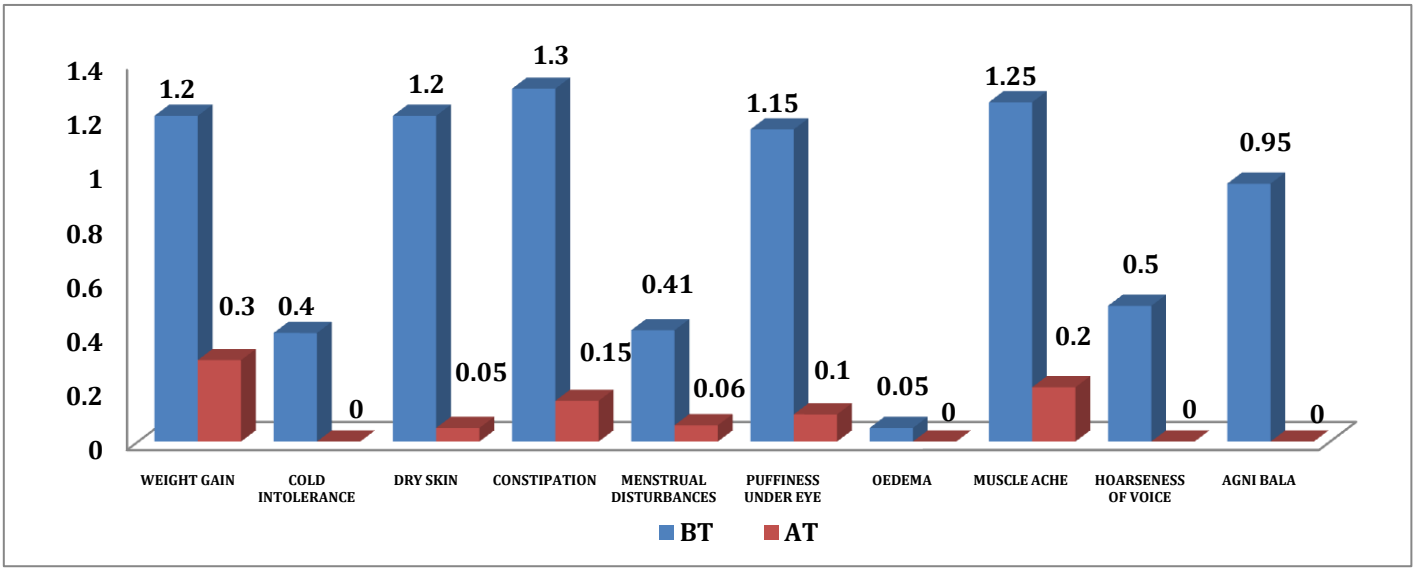

Table 5: Efficacy Study of Group 1 on T3, T4 and TSH value

Group A (Objective)		Mean	N	SD	SE	t- value	P- value	% Change	Result
T3	BT	107.70	20	11.53	2.58	-5.351	0.0000365	8.08	**HS**
	AT	116.40	20	6.23	1.39				
T4	BT	8.24	20	1.58	0.35	-6.402	0.0000039	22.55	**HS**
	AT	10.09	20	1.32	0.29				
TSH	BT	6.84	20	3.13	0.70	4.851	0.0001109	37.63	**HS**
	AT	4.27	20	1.12	0.25				

Table 6: Efficacy Study of Group B ON T3, T4 and TSH value

Group B (Objective)		Mean	N	SD	SE	t-value	P-value	% Change	Result
T3	BT	105.98	20	6.65	1.49	-3.497	0.002411	15.16	**Sig**
	AT	122.04	20	18.41	4.12				
T4	BT	9.46	20	1.17	0.26	-6.375	0.0000041	10.74	**Sig**
	AT	10.47	20	0.85	0.19				
TSH	BT	7.50	20	4.22	0.94	3.501	0.0024	35.05	**Sig**
	AT	4.87	20	1.19	0.27				

Table 7: Efficacy Study of Group B on Subjective Parameters

Subjective parameter	Mean		Median		Wilcoxon Signed Rank W	P-VALUE	% Effect	Result
	BT	AT	BT	AT				
Weight gain	1.40	0.75	2.00	1.00	-3.606[b]	0.000311	46.43	**HS**
Cold Intolerance	0.40	0.05	0.00	0.00	-2.333[b]	0.019631	87.50	**Sig**
Dry skin	0.90	0.80	1.00	1.00	-1.414[b]	0.157299	NA	**NS**
Constipation	0.85	0.40	1.00	0.00	-2.714[b]	0.006656	52.94	**Sig**
Menstrual disturbances	0.37	0.00	0.00	0.00	-2.646[b]	0.008151	100.00	**Sig**
Puffiness under the eye	1.05	0.55	1.00	0.50	-2.714[b]	0.006656	47.62	**Sig**
Edema	0.05	0.00	0.00	0.00	-1.000[b]	0.317311	NA	**NS**
Muscle ache	1.20	0.70	1.00	1.00	-2.887[b]	0.003892	41.67	**Sig**
Hoarseness of voice	0.25	0.05	0.00	0.00	-2.000[b]	0.045500	80.00	**Sig**
Agni bala	0.60	0.30	1.00	0.00	-2.449[b]	0.014306	50.00	**Sig**

Table 8: Estimation of Overall Response in Each Group

Improvement (%)	Group 1		Group 2	
	No	%	No	%
Excellent (75-100%)	19	**95%**	2	**10%**
Marked Improvement (50-74%)	1	**5%**	7	**35%**
Mild Improvement (25-49%)	0	**0%**	7	**35%**
No Improvement (<24%)	0	**0%**	4	**20%**

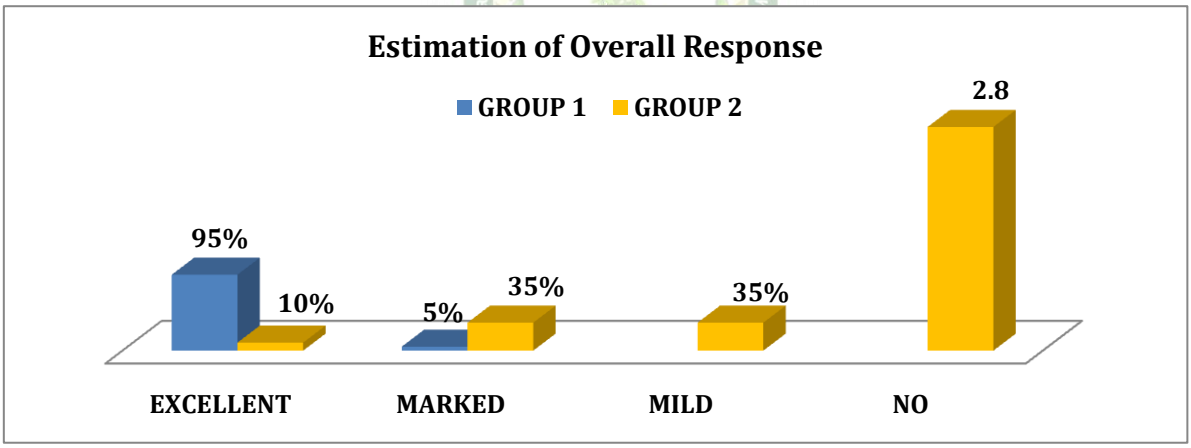

Table 9: Intergroup Comparison of Subjective Parameters

Variable	Group	N	Mean Rank	Sum of Ranks	Mann-Whitney U	P-value	Result
Weight Gain	Group A	20	22.48	449.50	160.500	0.0421	**Sig**
	Group B	20	18.53	370.50			
	Total	40					
Cold Intolerance	Group A	20	21.30	426.00	184.000	0.6027	**NS**
	Group B	20	19.70	394.00			
	Total	40					
Dry Skin	Group A	20	28.75	575.00	35.000	0.0000	**Sig**
	Group B	20	12.25	245.00			
	Total	40					

Constipation	Group A	20	26.05	521.00	89.000	0.0010	**Sig**
	Group B	20	14.95	299.00			
	Total	40					
Menstrual Disturbances	Group A	20	20.00	400.00	190.000	0.7389	**NS**
	Group B	20	21.00	420.00			
	Total	40					
Puffiness	Group A	20	24.23	484.50	125.500	0.0293	**Sig**
	Group B	20	16.78	335.50			
	Total	40					
Edema	Group A	20	20.50	410.00	200.000	1.0000	**NS**
	Group B	20	20.50	410.00			
	Total	40					
Muscle Ache	Group A	20	24.73	494.50	115.500	0.0125	**Sig**
	Group B	20	16.28	325.50			
	Total	40					
Hoarseness of Voice	Group A	20	23.10	462.00	148.000	0.0447	**Sig**
	Group B	20	17.90	358.00			
	Total	40					
Agni Bala	Group A	20	26.30	526.00	84.000	0.0004	**Sig**
	Group B	20	14.70	294.00			
	Total	40					

Table 10: Intergroup Comparison of T3, T4 and TSH Value

Variable	Group	N	Mean	SD	SE	t-value	P-value	Result
T3	Group A	20	8.70	7.27	1.63	-1.510	0.139	**NS**
	Group B	20	16.06	20.54	4.59			
T4	Group A	20	1.86	1.30	0.29	1.711	0.095	**NS**
	Group B	20	1.02	0.71	0.16			
TSH	Group A	20	2.57	2.37	0.53	-0.060	0.952	**NS**
	Group B	20	2.63	3.36	0.75			

DISCUSSION

Discussion on Observation

It was found that majority of patients (32.5%) were in the age group of 31-40 and 41-50 years

This data indicates higher incidence of hypothyroidism in middle age group people, it may be due to sedentary lifestyle and stress. Regarding the incidences in genders, it was observed that out of 40 patients under the study 36 patients 90% were female, the ratio regarding the incidence of *Dhatwagni Vikriti* (primary hypothyroidism) in between the gender is found to be relatively significant which support the fact from previous research that is more common in women than in men.

In our study 87.5% were married. Nothing specific can be drawn from this observation. Bowel habit wise distribution showed that maximum numbers of patient (55%) were constipated, It may be due to low thyroid hormone results in decrease in gastric motility results in constipation.

It was observed that out of 40 patients, 21 patients (52.5%) had *Madhyam Kostha*, maximum number of patients had *Madhyama Kostha* which indicates the dominance of *Kapha Dosha* in the system which is the basic factor in developing the pathogenesis of *Dhatwagnimandya.*

The present study shows that maximum of 25 patients (62.5%) had *Kapha-Vataj Prakruti*, *Kapha Dosha* along with *Avrit Vata* is mainly responsible for *Dhatwagnimandya*. It was seen that maximum 22 patients (55%) had *Mandagni*, as in hypothyroidism the *Agnimandya* play a vital role in pathogenesis and leads to decrease metabolism with manifestation of

sign and symptoms. This study shows that the maximum number of 13 patients (32.5%) had stress, it indicates stress as one of the causative factor of hypothyroidism.

This study shows that the maximum of 23 patients (57.5%) had sedentary lifestyle, it indicates that low physical activity people are more prone to hypothyroidism. It was observed that out of 40 patients, 29 patients (72.5%) had no history of exercise. In the description of '*Vyayama*' according to *Acharya Charaka Sutra Sthana* (7/32) proper exercise Results in *Agni Vriddhi* and *Dosha Kashya.* 41.6% patients were having irregular menstruation and 41.6% patients were having regular menstruation, it may be due to vitiated *Rasa Dhatu* cannot nourish *Upadhatu Artava* causing above manifestation.

Discussion on effect of therapy (Group 1)

- In subjective assessment, the result was statistically highly significant in weight gain, dry skin, constipation, puffiness under the eye, muscle ache, *Agni Bala* with p value <0.001 in each.
- Statistically significant result was found in cold intolerance, hoarseness of voice with p value <0.01 and non significant result was found in edema with p value >0.05.
- Mean TSH before treatment was 6.84μIU/ml which reduced to 4.27μIU/ml which is highly significant (p<0.001).

(Group 2)

- In subjective assessment, the result was statistically highly significant in weight gain with p value <0.001.
- Statistically significant result was found in cold intolerance, constipation, menstrual disturbances, puffiness under the eye, muscle ache, hoarseness of voice, *Agni Bala* with p value <0.05.
- Mean score of TSH before treatment was 7.50μIU/ml which decrease to 4.87μIU/ml which is Significant (p<0.01).

Assessment of total outcome

- Overall response in Group A (Ayurvedic formulation) was excellent improvement in 95% patients, marked improvement in 5% patients.
- While in Group B (Tab. Eltroxin 50 mcg) showed excellent improvement in 10% patients, marked improvement in 35% patients and mild improvement in 35% whereas 20% patients showed no improvement.

Probable mode of action of *Kanchanara Twaka Kwatha* with *Shunthi Churna*

In hypothyroidsim etiological factors mainly vitiate *Tridosha* (*Kapha* predominance associated with *Pitta* vitiation and *Margavaranajanya* leading to provoking of *Vata*).The line of treatment with specific target to *Rasavaha, Mamsavaha, Medovaha, Manovaha Srotas* as well as *Vata-Kapha Nashaka, Agnideepan, Srotoshodhana, Vatanuloman, Amapachan* treatment should be administered in hypothyroidism.[3]

These drugs are having *Katu, Kashya Rasa* which makes the drugs to act as *Kaphashamaka*, *Pitta Vardhaka* and *Ama Dosha Hara* drugs. These *Rasas* have tendency of reducing *Kapha and Medas*. *Katu rasa* removes the obstruction and thus correct the *Srotorodha*. *Kashya rasa* has *Lekhna Guna* that scraps out excessive *Kapha* and *Meda* from *Srotasa.* So, it is apparent that by virtue of their *Rasas*, these drugs are likely to act as *Kaphashamaka* and *Medohara*, thus have beneficial effects in management of hyperlipidaemia, obesity etc which is associated with Hypothyroidism. *Ushna Veerya* of *Shunthi*[4] increases basal metabolic weight, oxygen consumption and accelerate the breakdown of fat at mitochondrial level (Upadhaya et.al in 1979 at BHU has proved it). *Sunthi* undergoes *Madhur Vipaka* and thus has anabolic effect on the body. *Sunthi* acts by direct enrichment of the nutritional quality of the *Rasa Dhatu* and in turn helps in improving tissue nourishment and in production of better qualities of *Dhatus*, due to its *Madhura Vipaka* and *Snigdha Guna*[4]. In addition *Kanchanra* itself is given the synonym of '*Gandari*' that means it arrests the growth of the cyst. Hence, it is drug of choice in *Galaganda* and *Gandamala*.it is stated to be *Gandamala nashaka*.

CONCLUSION

Jatharagni is the leader of all factors concerned with digestion and metabolism in the living body. Hypothyroidism is a progressive disorder of thyroid gland due to an insufficient amount of thyroid hormone. The thyroid is an important part of human endocrine system which is responsible for regulation of oxygen use, BMR, cellular metabolism and growth and development. The major function of thyroid gland is to act as spark for the maintenance of oxidative metabolism in most tissues. In Ayurveda parlance, this is attributed as function of *Agni*. If we try to correlate the pathogenesis of hypothyroidism according to principles of Ayurveda we found that it is basically caused due to dysfunction of *Agni*.

Faulty eating habits, stress, sedentary lifestyle are major etiological factors for the manifestation of disease. Maximum patients had the history of *Vishamasana* and *Mandagni* which clearly shows the importance of *Ahara Vidhi Vidhana* while intake of food. In present study, effect of *Kanchanara Twaka Kwatha* with *Shunthi Churna* was recorded by using the symptoms of hypothyroidism. The result demonstrated that the drug was very much effective for relieving the sign and symptoms of patients of hypothyroid. During follow up of 15 days period it was found that there was relapse of few symptoms with

less intensity. No adverse effect was noted during the trail and in the follow up period. So it can be concluded that the Ayurvedic management provide better alternative to the allopathic treatment in treating hypothyroidism without any long term side effects as seen with uses of Tablet. Levothyroxine.

Recommendation

Ayurvedic formulation reveals admirable results when given to the patients of subclinical hypothyroidism but further evaluation is to be done as:

1. 12 weeks is not sufficient duration to cure *Ama* and *Agnimandya* at *Dhatu* level. Results could have more effective if study would have been done for longer duration. Longer duration could not keep in the present study due to limitation of time.
2. Present study was excluding patients having major cardiovascular problems, diabetes, carcinoma etc. An attempt can be made to search remedy for such type of patients including in the study. To achieve this goal more *Hridaya* and *Rasayana* drugs, *Premeha Hara* drugs can be added to get more fruitful results.

REFERENCES

1. Debojyoti das et al., Ayurvedic approach to management of Hypothyroidism, IJDR, 30 Jan 21 Vol 11, Issue, 01 Pp 43645-43648
2. Dr.Shailaja Shrivastava, Sharangadhar samhita Jiwanprada, Hindi commentary Chaukhambha Orientalia, Varanasi 4th edition 2005, chapter 2, page no.33
3. Debojyoti das et al., Ayurvedic approach to management of Hypothyroidism, IJDR, 30 Jan 21 Vol 11, issue 01, Pp 43645-43648
4. Prof. Priyavrata Sharma, Dravyaguna Vijyana, Vol-2 Chaukhambha Bharti Academy, Varanasi, edition 2003, page no 234

Cite this article as:
Radha Joshi, OP Singh, Sanjay Kumar Tripathi. Role of Kanchanara Twaka Kwatha with Shunthi Churna in Hypothyroidism (Dhatuwagni Vikriti). International Journal of Ayurveda and Pharma Research. 2023;11(9):1-9.
https://doi.org/10.47070/ijapr.v11i9.2947
Source of support: Nil, Conflict of interest: None Declared

***Address for correspondence**
Dr. Radha Joshi
PG Scholar,
Department of Kayachikitsa,
Rishikul Campus, Haridwar.
Email: radhaaa544@gmail.com