



## Treatment of Hypothyroidism Through Yoga Therapy – A Study

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### ABSTRACT

The study entitled "Treatment of hypothyroidism through Yoga therapy – A study" was conducted under the guidance of Dr. K. Krishna Sharma, Chairman, Dept. of Human Consciousness and Yogic Sciences, Mangalore University. To achieve this, there were 20 subjects diagnosed with hypothyroidism of the age group of 18- 60 years, selected for the study. Various yogic practices were given to the subjects under consideration for a period of 3 months including follow up. The results concluded that, there was a significant increase in the Triiodothyronine (T<sub>3</sub>) after the yogic practice, at a level of significance  $p < 0.05$  from the mean 1.26 to 1.54, standard deviation of 0.302 to 0.161,  $t$  stat= 2.031, with a significant  $p = 0.00017$ , Thyroxine (T<sub>4</sub>) at a level of significance  $p < 0.05$  from the mean 4.18 to 7.12, standard deviation of 1.198 to 1.751,  $t$  stat=2.018, with a significant  $p = 1.79 \times 10^{-8}$ . The parameters considered for the present were; Tri-iodothyronin (T<sub>3</sub>), Thyroxin (T<sub>4</sub>) and Thyroid Stimulating Hormone (TSH). This shows a remarkable improvement in the Hormonal levels in the experimental group.

**KEYWORDS : – Thyroxin, hypothyroidism, yoga.**

Yoga is an ancient science of India. It is India's unequalled gift to mankind. It is a science of knowing oneself and knowing the eternal truth. Yoga is a philosophy, a way of life, and is meant for everyone: not as a fashion, as it has become nowadays, but as fulfilling a real need in life. The systematic approaches to overcome the diseases may be divided as preventive, promotive and curative aspects of yoga. The application of yoga for various symptoms and diseases of the body and mind is called yoga therapy.

People prefer nowadays, treatment through natural ways like yoga all over the world. Therefore yoga has got importance in this era. Most of the diseases originate in the mind. Mind and body are closely associated according to yoga. Many instrumental methodologies, which are used in biological and medical sciences, are thought, to evaluate the benefits of yoga. But the parameters used are not able to detect the instantaneous improvement generated by the yogic practices easily. Thyroid gland is one of the endocrine glands, located at the base of the throat. This gland releases the hormones that control the metabolism of the body. These hormones are responsible for the control of various bodily functions like breathing, heart rate, cholesterol levels, nervous system, body temperature, weight, etc. Any imbalance in the functioning of the thyroid gland disturbs the basal metabolic rate and affects the normal bodily functions. Yogic practices are beneficial to people who are having thyroid disorders like hypothyroidism and hyperthyroidism. In this context, a proper study on effect of yoga therapy on the thyroid disorders is very much essential.

### Materials and Methods

The present research work was carried out in the Department of Human Consciousness and Yogic Science, Mangalagangothri, Karnataka, under the guidance of Dr. K. Krishna Sharma, Chairman of the Department of Human Consciousness and Yogic Sciences, Mangalore University. The subject's selection was based on selective sampling method in which they were diagnosed with hypothyroidism. A written consent was taken from the subjects under consideration.

20 subjects with hypothyroidism were selected and divided into 2 groups of the age group of 18 to 60 years. Out of 20 subjects, 10 subjects were allowed to carry out their routine work (control). Detailed case histories of all subjects with the symptoms of Hypothyroidism were noted down. Yoga therapy was given for a period of 3 months, including follow up all the yogic practices were systematically taught to the subjects. Individual care was taken to all the subjects. By looking at the subject symptoms and severity, the yogic practices are altered. The following yogic practices were taught gradually, to the subjects only in the experimental group individually.

1.Svastikasana 2. Vajrasana 3.Suptavajrasana 4. Urdhwavajrasana 5.Simhasana 6.Tadasana 1, 2 7.Katiparivarta 8. Ardhaacandra 9.

Trikonasana 10. Parivarthitha Trikonasana 11.Parsvakonasana 12. Prasaritapadottansana 13. Pascimottanasana 14. Purvottansana 15. Janusirshasana 16. Mahamudhra 17.Pavanamuktasana 18. Bhujangasana 19. Salabhasana 20. Dhanurasana 20. Paryankasana 21. Ushtrasana 22. Bharadvajasana 23. Vakrasana 24. Viparitarani 25. Halasana 26. Uttanapadasana 27. Vahnisarakiya 28. Ujjayipranayama 29. Anuloma-Viloma pranayama 30. Bhastrika pranayama 31. Bahya kumbhaka 32. Jalandara Bandha 33. Savasana 34. Yoganidra.

In the beginning, few practices were taught to the individuals and gradually as day's passes, rest of the practices was added and the complete yoga therapy course was repeated in the following days.

### OBSERVATION AND RESULTS

All the subjects in the experimental group have shown an improvement in Thyroid function after the yoga therapy. The subjects were either relieved or reduced from Thyroid disorder symptoms. In the beginning days of the practice of yoga therapy, the subjects felt stiffness and difficulty while practicing. As the days progressed, gradually, they were able to practice freely, experienced freshness and lightness of the body and mind.

### Statistical Analysis:

All the subjects of the study have improved either by complete reduction or cure from Thyroid disorders. The observations were compared by using paired 't' test. Paired 't' test is used. It is a test for judging the significance of a sample mean or judging the significance of difference between the means of two samples in case of small samples. In case two samples are related, the paired t test is used for judging the significance of the difference between the two related samples. The t-test is based on t-distribution. The t-distribution is a continuous probability distribution that arises when estimating the mean of normally distributed population. The significance of the result is assessed by considering 0.05 as the level of significance 'p'. The variation is considered statistically significant if  $p < 0.005$ . The difference is considered highly significant if  $p < 0.005$ . The values of statistical analysis of data are given in the following tables.

**Table 1: Experimental group with Hypothyroidism.**

Blood test	Mean		Standard Deviation (SD)		t-stat value	p-value	Level of significance
	Before	After	Before	After			
Triiodothyronin (T <sub>3</sub> )	1.34	1.58	1.157	1.257	2.306	0.0016	S

Tetraiodothyronin ( $T_4$ )	3.68	5.62	1.91	2.37	2.310	0.0027	S
Thyroid Stimulating Hormone (T.S.H)	16.299	3.582	4.04	1.89	2.306	2.23E-06	H.S

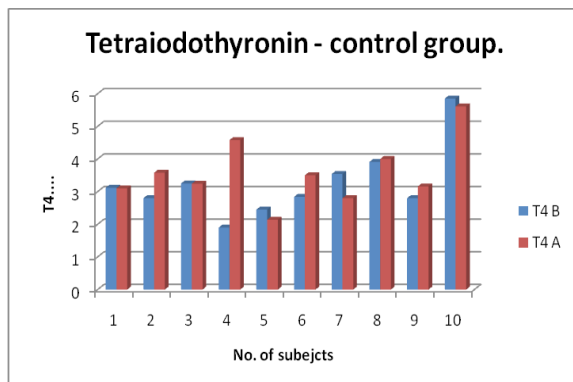
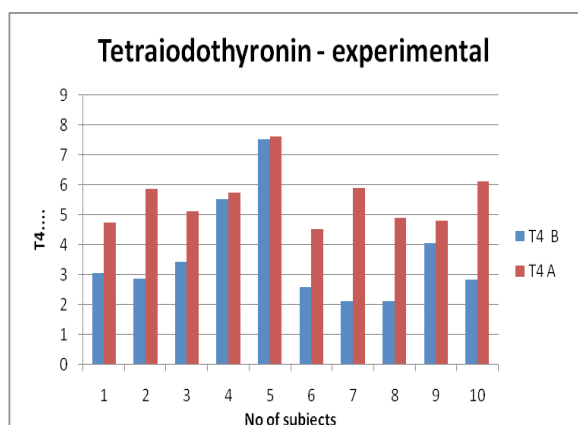
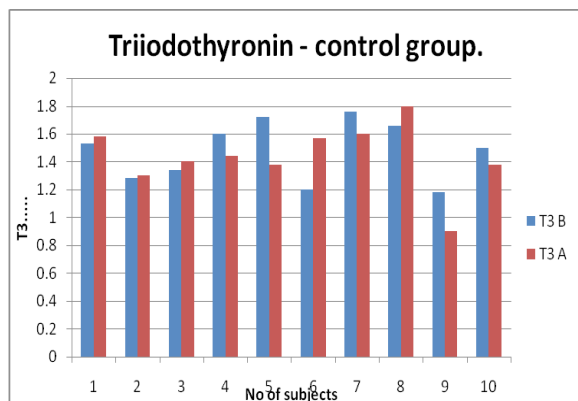
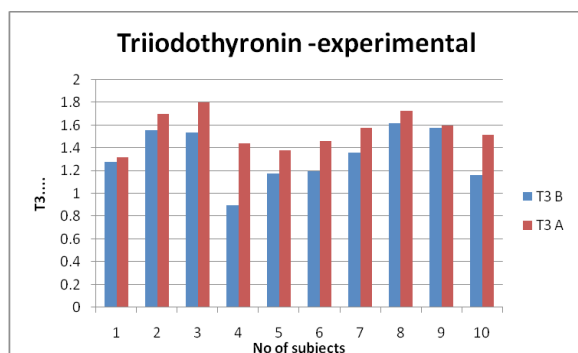
Note: **S = Significant, H.S = Highly Significant.**

**Table 2: Control group with Hypothyroidism.**

Blood test	Mean		Standard Deviation (SD)		t-stat value	p-value	Level of significance
	Before	After	Before	After			
Triiodothyronin ( $T_3$ )	1.477	1.435	1.215	1.198	2.262	0.547	N.S
Tetraiodothyronin ( $T_4$ )	3.246	3.571	1.80	1.89	2.260	0.304	N.S
Thyroid Stimulating Hormone (T.S.H)	15.668	15.57	3.96	3.95	2.26	0.764	N.S

Note: **S = Significant, N.S = Non-significant.**

### Graphical Representation (HYPO THYROIDISM)



### DISCUSSION

In the present research study, the results of experiment group were proved to be statistically significant. Every member felt improvement after the yoga therapy programme. But there was no significant improvement among control group subjects. In the subject with Hypothyroidism experimental group, after three months of Yoga practice the symptoms like – sudden weight gain, sensitive to cold, tremor in hands, abnormal hair loss, sever bleeding during menstruation, poor hearing capacity , frequently muscles cramp, were deduced considerably.

At the end of the study, the subjects (with Hypothyroidism) in the experimental group have shown significant improvement in the thyroid function. The results concluded that, there is significant increase in the Triiodothyronine ( $T_3$ ) at a level of significance  $p < 0.05$  from the mean 1.26 to 1.54, standard deviation of 0.302 to 0.161,  $t$  stat= 2.031, with a significant  $p = 0.00017$ , highly significant, hence the first Null hypothesis will be rejected , Thyroxine( $T_4$ ) at a level of significance  $p < 0.05$  from the mean 4.18 to 7.12, standard deviation of 1.198 to 1.751,  $t$  stat=2.018, with a significant  $p = 1.79 \times 10^{-8}$ , highly significant, hence the second Null hypothesis will be rejected, The results concluded that, there is significant decrease in the Thyroid Stimulating Hormone(TSH) at a level of significance  $p < 0.05$  from the mean 10.02 to 4.07, standard deviation of 3.0 to 1.082,  $t$  stat=2.012, with a significant  $p = 2.24 \times 10^{-12}$ , highly significant, hence the third Null hypothesis will be rejected. But in case of the subjects (with Hypothyroidism) in the control group have shown non significant improvement in the thyroid function. In Triiodothyronine( $T_3$ ), at a level of significance  $p < 0.05$ , from the mean 1.43 to 1.42, standard deviation of 0.343 to 0.294,  $t$  stat= 2.011, with  $p = 0.937$ , and in Thyroxine ( $T_4$ ), from the mean 4.26 to 4.35, standard deviation of 1.575 to 1.167,  $t$  stat=2.015, with  $p = 0.814$ , which is non-significant. The results concluded that, there is no any significant change in the Thyroid Stimulating Hormone(TSH) at a level of significance  $p < 0.05$  from the mean 11.41 to 11.48, standard deviation of 3.666 to 3.966,  $t$  stat=2.010, with  $p$  value = 0.952, which is non-significant. The yoga therapy session were conducted regularly in the early morning from 6.30 AM to 7.30 AM. Many subjects reported that the digestive problems which they were getting as a result of consuming hostel food reduced considerably after yoga practice. Most of them reported that they experienced freshness, relaxation and calmness after practice; it showed various other positive effects such as reduced tension, improved working ability and positive thinking after few days of practice.

### CONCLUSION

The present study shows the efficacy of yogic practices in treating the hypothyroidism. The tests to assess the levels of Thyroxine, Triiodothyronine and thyroid stimulating hormone in the blood stream proved to be important tools in diagnosing the hypothyroidism. They also served a major role in determining the levels of improvement among the patients suffering from thyroid disorders after the practice of yogic practices and also to verify if the treatment given is fruitful. Considering the changes in the levels of these hormones in the blood stream the efficacy of yogic practices on thyroid disorders were sufficiently proved. Further study can be conducted by including other parameters, increasing the number of subjects and also by extending the duration of study. A research can also be conducted by considering other factors like food control, lifestyle and strict control over the regularity of practice and feedback.

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