

# The Effect of Yogic Practices Combined With Electro-Magnetic Therapy on Hypothyroidism among the Tribals at Reserve Forest Area of Thiruthani

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**Abstract:** The aim of this study was to see the Thyroid stimulating hormone levels in the tribals after yogic practices and Electromagnetic Therapy. For that, Thirty Tribals in both sex were selected from the foot hills of the Reserved Forest area of Thiruthani, and their age ranged from 35 to 45 years. Thirty subjects were randomly selected and they were divided into three equal groups of 10 each, as yogic practices treatment group-1, combined yoga with Electro Magnetic Therapy treatment group-2, and control group-3. Yogic practices such as proper diet, exercise, proper breathing and proper relaxation were taught to the Experimental group 1 for 12 weeks. Yogic practices with Electro Magnetic therapy was given to Experimental group-2 and no training was given to the control group. Baseline (pre-test) readings were taken before training, and post-test readings were taken after training (12 weeks). Paired “t” test was applied for examining the hypothesis. There were significant improvements in balancing Thyroid hormone level among the tribal through yogic practices, also yogic practices with Electro Magnetic therapy. Thus yogic practices and Electro-Magnetic therapy have beneficial Effect on Hypothyroidism among the tribals.

**Keywords:** yogic practices, Electro Magnetic therapy, Effect on Hypothyroidism among the tribals.

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## 1. INTRODUCTION

Yoga is a scientific management to control body ailments with the Pathanjalis sutra defining Yoga as “Yoga-chitta vritti nirodhaha” which means yoga is to regulate the distractions of Mind. 80% diseases are born from psycho-somatic problems. If the inner awareness opens, everyone get tremendous power to meet all problems.

Electro-magnetic therapy is an alternate therapy to cure the human diseases using Electric and magnetic radiation like Acupuncture technology which is the traditional Chinese medicine methodology. Evidence shows that complementary and alternative therapy help people to feel better.

In the new millennium, most of us including the tribal community are under any one of the disorders because of increased stress and strain which reflects directly in the body such as endocrine glands. When the stress becomes unbearable, it gives rise to psycho-somatic disorders such as hypertension, acidity, glandular disorders. Hence to treat the above disorders, modern medicine may provide side effect but there is a way to reduce, by means of introducing yoga and Electro-magnetic therapy.

As estimated 108 million people in India are suffering from Endocrine and metabolic disorders. Most of these diseases are caused by Environmental factors. Therefore their prevalence is several-fold higher. Thyroid disorder is the most common of all the endocrine diseases in India .Thyroid, Pituitary gland and Hypothalamus which produce or secrete the hormones

such as T3, T4, TSH and TRH respectively. Hypothalamus regulates the pituitary gland via thyrotropin. Most of the yoga techniques help the thyroid, pituitary gland and hypothalamus to work at their optimum level. This problem of Thyroid regulation is seen ever among the tribal community who are exposed to stress. So it is a modulus attempt to make tribal people aware of how yoga and electro-magnetic therapy can help in the preservation of health particularly endocrine system. There is no sufficient clinical evidence that alternate therapies with yoga and electro magnetic therapy supporting are effective in managing hypothyroidism, hence the research was taken as a objective.

Hypothyroidism is defined as a clinical state resulting from insufficient secretion of thyroid hormone from thyroid gland due to some structural or functional impairment of thyroid hormone production. Generally in hypothyroidism t3, t4 level is less and tsh level is high.

(a) "YOGA" is an ancient practice based on an extremely subtle science, that of the body, mind and soul. The prolonged practice of yoga will, in time, lead the people free from diseases and fulfill the real joy of the life.

#### **Yogic techniques (or) practices:**

1. Asanas
2. Pranayama
3. Meditation
4. Mudras and Bandhas
5. Sathkiriyas

#### **(b) Electro - Magnetic therapy:**

Electro-Magnetic Therapy includes Electric and magnetic therapy. Its effect is apparent, and it can relieve the side effect that may be caused by taking medicines and injection. At present, the therapy is very popular in the field of family hygiene.

#### **The content of Electric therapy:**

In 1780 Carboni, a Western Scientist discovered rules about electric current in nerves and muscles while he was conducting experiment on frogs. In 1825, a French recherche, Salender began using Galvanic acupuncture to heal the disease of nervous system. In 1859, Sakuma Shozan, a Japanese Scientist made electric current instrument to heal the disease. In 1950 a Japanese doctor, Nakatoni Yoshio, made use of direct current resistor device to measure the amount of electric current under skin from a patient with renal disease. He discovered there were a series of acupuncture points easy to conduct electricity. We have made use of Electric resistor device to probe acupuncture points. When we find that resistor is too strong. It symbolizes that Electric current is too weak and it means deficiency of vital energy and when the resistor is too weak it symbolizes electric current is too much and it means full of energy.

#### **The Content of Magnetic therapy:**

The earth is a big magnet. In the inner side and surroundings of the earth, there is a magnetic power line passing through. The place with passing of magnetic power line is magnetic field. The place which our human live in, is a place full of magnetism from the beginning. So when the magnetism of the earth changes, we humans are influenced.

People in the modern world have suffered the shortage of magnetic energy in their bodies. The shortage of magnetism will cause the disease of Autonomic nervous system.

#### **Electro - Magnetic therapy:**

Electro-magnetic therapy combines the therapeutic principles of Electricity and magnetism, and the effects are more apparent.

Tiens-Life Electro-Acupuncture instrument is used to find out the electro-magnetic deficiency in the organs through Accu-points in the palm, already found by the research scholars, and also uses to improve the electro magnetic energy to improve the immune power of human body.

Following are the functions about Tiens-Life Electro Acupuncture instrument, First, it can Improve blood circulation and enhance the amount of oxygen of Erythrocyte and dilate Blood vessels and improve metabolism.

Second, it can enhance the muscle contraction. When the electric current occurs, It can Good for the patients with hemiplegia paralysis and pains.

Third, it can reduce pains, especially for trigeminal neuralgia, pains in junctures, muscles, tooth and dysmenorrhoea.

Fourth, it can vitalize the functions of nerves and affective area of the patients with paralysis, poliomyelitis and disorder of facial nerves.

Fifth, it can adjust the movement of intestines likely to be good for constipation or diarrhoea.

Sixth, it can improve the functions of ureter and constrictor.

Seventh, it can reduce inflammation and it can increase the amount of leukocyte and strengthen the ability of immunity.

Eighth, it can lessen the temperature caused by germs or environment.

## **2. OBJECTIVES**

1. To study the effect of yogic practices upon hypothyroid levels in tribal group
2. To study the combined effect of yogic practices with Electro-magnetic therapy upon hypo-thyroids levels and thyroid levels and malfunction among tribals.

## **3. HYPOTHESIS**

1. Yogic practices would balanced the secretion of TSH significantly after training when compared to control group.
2. Yogic practices combined with Electro-magnetic therapy would significantly improve balancing of secretion of TSH compared to control group.

## **4. METHODOLOGY**

For the purpose of the study thirty tribals with hypo-thyroid problems were selected as subjects from the foot hills of reserved forest area of Thiruthani.

Their age range from 35 to 45 years. They were included with their consent. The selected subjects were divided into three equal groups of 10 in each such as yogic practice training group, combined yogic practices and Electro-magnetic therapy group and control group. The Experimental group - 1 underwent yogic practices daily for one hour, three days per week for 12 weeks. The Experimental group-2 underwent yogic practices combined with Electro-magnetic therapy. Yogic practices were given in the morning one hour, 3 days in a week and Electro-magnetic therapy 15 minutes evening only wasfor 12 weeks. Group-3 was treated as control group. No specific training given. The selected criterion variables were assessed using standard tests and procedures, prior to and immediately after the training programme. The selected Hypothyroid variable TSH was measured in baseline and after training. paired "t" test was used as a statistical procedure to establish the significant difference, if any, existing differences between pre test and post test data on selected dependent variables to prove the hypotheses Mean  $\pm$  SD, mean difference, SEM were calculated.

## **5. TRAINING PROTOCOL**

The experimental Group - I underwent yogic practices training for a period of 12 weeks. The yogic practices training comprises proper diet (Sathvicdiet), proper exercise (Asanas), Proper breathing (Pranayana) and with proper relaxation (Deep relaxation technology). Before the starting the training it was elaborately explained as mentioned above. Experimental Group-2 underwent the same yogic practices with Electro-magnetic therapy for a period of 12 weeks. Electromagnetic therapy was given through Tiens Acupuncture machine in the varma points of Hands palms. Group 3 was treated as control group no training was given.

**Training Work:**

**Table - 1**

Sl. No.	Group Training	Duration of Training	Asanas	Pranayana	Relaxation
1	Group I Yogic Practices only	12 Weeks daily one hour Weekly threedays 6.30 a.m. to 7.30 a.m.	1.Surya Namaskar - 3set/ 5 min 2.Utkattasana - sets/ 5 min 3.Sarvangasana - 2sets/ 5 min 4.Matchandrasana - 3sets/ 5 min 5.Dhanurasana - 3sets/ 5 min	Surya bedhama- 20 breaths- 3set/ 5 min Chandhra bedhana-20 breaths-3sets/ 5 min Nadisuddhi - 10 breaths-3 sets/ 5 min Ujjayi - 20 breaths-3 sets/ 5 min	Deep Relaxation Technology (DRT)
2	Group II Yogic Practices + Electro-magnetic Therapy	12 Weeks daily one hour Weekly threedays 6.30 a.m. to 7.30 a.m. + Electro-magnetic Therapy Evening 6.00 to 6.15 p.m.	- do -	- do -	- do -
3	Group III Control Group	12 Weeks - Not given any type of training			

**6. RESULTS**

**Statistical Observation:**

**Table – 2 Mean and SD and its significance for Treatment Group 1 (Yogic Practices only)**

Sl. No.	Variable		Mean ± SD	Mean Difference	SEM	Paired ‘t’ test ‘t’ value
1	TSH	Pre test	8.10 ± 2.12	1.15	0.736	2-143**
		Post Test	6.95 ± 1.73		0.540	

As per the “T” Ratio Table 0.05 level significant is 1.833 as per above table arrived “T” value is 2.143 is more than 1.833 so the result proved significant improvement takes place balancing the thyroid, among tribals through yogic practices.

**Table -3, Mean and SD and its significance for Group 2 – (Yogic Practices - Electro Magnetic Therapy)**

Sl. No.	Variable		Mean ± SD	Mean Difference	SEM	Paired ‘t’ test ‘t’ value
1	TSH	Pre test	6.30 ± 1.14	2.48	0.581	3.715**
		Post Test	3.82 ± 1.26		1.047	

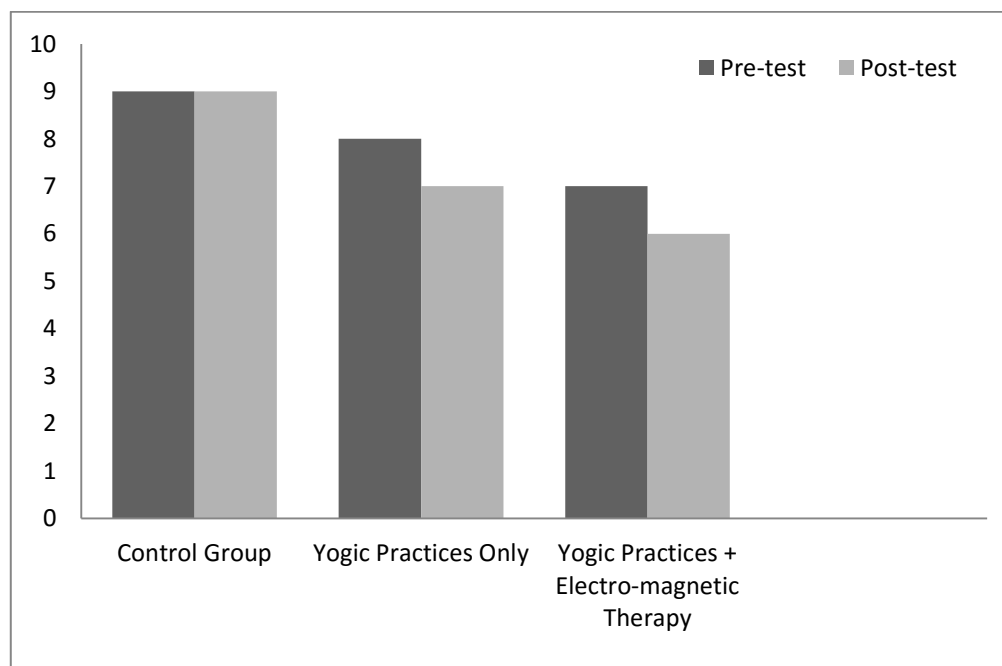
As per the “T” ratio table 0.05 level significant is 1.833 as per above table obtained “T” value 3.715 is more than 1.833 the result proved the better improvement accured through the combined effect of yogic practices and electromagnetic therapy in curing hypothyroidism.

Table -4, Mean and SD and its significance for Control Group

Sl. No.	Variable		Mean ± SD	Mean Difference	SEM	Paired 't' test 't' value
1	TSH	Pre test	8.75 ± 3.49	0.31	1.06	-1.782 (NS)
		Post Test	9.06 ± 3.05		0.899	

As per the “T” ratio table 0.05 level significant is 1.833 as per the above table obtained “T” value – 1.782 is less than 1.833 results shows there is no change in hypothyroidism of the control subjects.

**BAR DIAGRAML:**



**7. DISCUSSION**

The Yogic Practices training group and combination of yogic practices/ Electromagnetic therapy group significantly improved the balancing of Thyroid, stimulating Hormone Pre to Post test. In the yogic group the TSH level pre test Mean ± S.D 8.10 ± 2.12 to post test Mean ± 6.95 ± 1.73, Mean difference 1.5 shows the reduction of TSH level is the indication of better endocrine status. Similarly in the combined yogic practices / EMI group the TSH level pre test Mean ± S.D 6.30 ± 1.14 to post test Mean ± S.D 3.82 ± 1.76 shows the improvement in Hypothyroidism level. But in the control group TSH level in pre-test Mean ± S.D 8.75 ± 3.49 and in post test Mean ± S.D 9.06 ± 3.05. There is no change in TSH level, which caused no improvement to reduce thyroid level.

The evidence of this study supports the earlier study by Krishna Sharma and others (1) who concluded by the practice of yoga it shows a remarkable difference in the thyroid hormonal levels with the subjects. Alysonroes and others in their national survey (3), revealed frequency of yogic practices improves health. Anamantica (5) says the shoulder stand Asanas and Fish posture often place a little bit pressure on the neck area stimulating thyroid gland but he added that there is no scientific study that was confirmed the above theory.

But Gauravswami and others (2) of Department of Physiology and Medicine, University and College of Medical Science, Delhi concluded that the Pranayama and meditation can be promoted as breathing technique for improvement of Hypothyroid patients. In their research paper the TSH Level pre-yoga 13.67 ± 10.22 and after yoga 9.10 to 8.57, the mean difference 4.57 more or less is nearing with our result mean difference 1.15 and 2.45. ‘t’ value in yogic group 2.143, combined yogic practice with Emt is 3.715 and the control group is 1.782. From the “t” ratio table 0.05 level significant is 1.833. So it was proved that the yogic practices and the combined Electromagnetic therapy provide positive improvement in balancing TSH level.

## **8. CONCLUSION**

It has been concluded that the yogic practices improve balancing the Thyroid stimulating Hormone significantly and combined yoga with Electro-magnetic therapy also provides better improvement for balancing the Thyroid stimulating Hormone among tribals having hypothyroid.

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