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## Therapeutic intervention of yogic training on modulation of cortisol hormone

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### Abstract

In the present study it was planned to scrutinize the therapeutic intervention of yogic training on modulation of Cortisol hormone. One – Group Pre-test - Post-test Design was used as experimental design in present study. All subjects were selected in terms of purposive samples under the sampling method of non-probability sampling. To achieve purpose of present study total ten (N=10) male students between age group of 23- 28 years, from Department of Physical Education, Punjabi University Patiala was selected as subjects. The investigator has selected twelve weeks yogic training as independent variable and Cortisol Hormone as dependent variable of the study. After the collection of relevant data, to know the therapeutic intervention of yogic training on hormonal modulation, paired t-test was employed on mean values of pre and post-tests with the help of Statistical Package by Graph Pad Software. The level of significance was set at 0.05 percent. After the analysis of data it was concluded that after the application of twelve – weeks yogic training protocol the Cortisol Hormone level increased significantly in male students.

**Keywords:** Therapeutic intervention, yogic training, modulation, cortisol hormone

### Introduction

Who are we? We can learn the answer to this question by observing, hypothesizing, experimenting, and analyzing. We are complex living beings in a complex, contradictory, ever-changing world. We know that we do not understand everything about ourselves, but by using modern scientific and ancient philosophical methods we can keep learning more and more.

Cortisol is one of the steroid hormones and produced by the adrenal gland. Cortisol is often called the "Stress Hormone" because of its connection to the stress response. It works with certain parts of human brain to control mood, motivation, and fear. Secretion of the hormone is controlled by the hypothalamus, the pituitary gland, and the adrenal gland, a combination glands often referred to as the HPA axis. Normally, Cortisol is secreted in short bursts.

Cortisol can help control blood sugar levels, regulate metabolism of fat, protein, and carbohydrates. It helps to reduce inflammation, and assist with memory formulation also. It has a controlling effect on salt and water balance and helps control blood pressure. In women, Cortisol also supports the developing fetus during pregnancy. All of these functions make Cortisol a crucial hormone to protect overall health and well-being. Cortisol levels range from about 6 to 20 ug/dl (micrograms per deciliter) in the early morning (within one hour of the usual time of awakening), from 2.5 to 10.5 ug/dl at 4 PM, and are usually less than 5 ug/dl after the usual bedtime, but there is a great deal of variation. There is an increase in Cortisol secretion in response to eating and exercise as well as to physical and psychological stress (Thyrocare Tech. Lim., 2016) [5].

Origin of yoga in India is a giant leap in Indian history, which is not fully understood by us. Our scientists have penetrated the heart of an atom and even they have successfully landed on the Mars but we are unable to find out the scientific facts behind yoga.

During the scanning of relevant literature for the proposed topic, only few studies were found, revealing the effect of yoga on hormone secretion in human body. The scholar, being ardent lover of yoga and has experienced the great benefits of such exercises. Hence, in the present study it was planned to scrutinize the effect of yogic therapy on Cortisol Hormone of human body.

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## Methodology and Procedure

In the present study it was planned to scrutinize the therapeutic intervention of yogic training on modulation of Cortisol hormone. One – Group Pretest - Posttest Design was used as experimental design in present study. All subjects were selected in terms of purposive samples under the sampling method of non-probability sampling. To achieve purpose of present study total ten (N=10) male students between age group of 23- 28 years, from Department of Physical Education, Punjabi University Patiala was selected as subjects. The investigator has selected twelve weeks yogic training as independent variable and Cortisol Hormone as dependent variable of the study. After the collection of relevant data, to know the therapeutic intervention of yogic training on hormonal modulation, paired t-test was employed on mean values of pre and post-tests with the help of Statistical Package by Graph Pad Software. The level of significance was set at 0.05 percent.

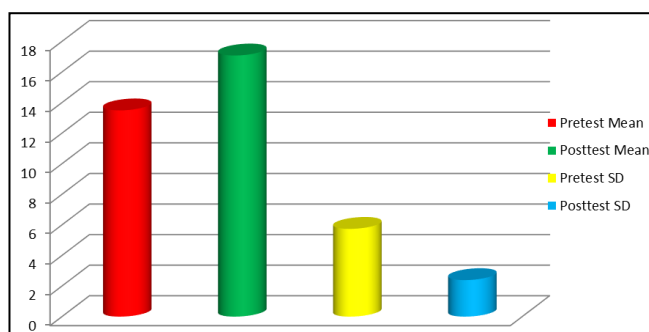
## Results of the Study

**Table 1:** Comparison of Mean and SD values of Pretest and Posttest of Cortisol Hormone level in Male Students

Cortisol Hormone	Mean	SD	t
Pretest	13.49	5.74	2.46*
Posttest	17.08	2.39	

$t_{.05} (9) = 2.26$

The results of pretest and posttest namely Mean, SD, and t values of Cortisol Hormone level in male students are given in above table. This table demonstrates that the pretest Mean of Cortisol Hormone level in male students is 13.49 and posttest Mean is 17.08. Further the table statistically reveals that the calculated t value 2.46 for Cortisol Hormone level in male students is greater than table value that is 2.26. Therefore the values of above table confirms that, after the application of twelve – weeks yogic training protocol the Cortisol Hormone level increased significantly in male students. The results of above table are also illustrated in following figure.



**Fig 1:** Comparison of Mean and SD values of Pretest and Posttest of Cortisol Hormone level in Male Students

## Conclusions

After the analysis of data it was concluded that after the application of twelve-week yogic training protocol the Cortisol Hormone level increased significantly in male students.

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