



## YOGA

## EFFECT OF YOGIC PRACTICES WITH VARMA THERAPY ON BODY MASS INDEX AND PULSE RATE AMONG STRESSED COLLEGE BOYS

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**ABSTRACT**

The present random group experimental study was designed to find out the effect of yogic practices with varma therapy on Body Mass Index and Pulse Rate among Stressed college boys. It was hypothesized that there would be significant difference in yogic practices with varma therapy than the control group on Body Mass Index and Pulse Rate among Stressed college boys. To achieve the purpose of the study, thirty (30) Stressed college boys residing in Chennai age between 18-23 years were selected randomly into two groups, namely experimental group and control group of fifteen (15) subjects each. Training period of this study was eight weeks. Experimental group underwent yogic practices with varma therapy for eight (8) weeks, five days a week for a maximum of one hour in the morning. The control group was kept in active rest. The pre test and post test were conducted before and after the training for all two groups. To analyse the data (ANCOVA) test was used to find out the significant difference between experimental group and the control group. The test of significance was fixed as 0.05 level of confidence. It was concluded that there was significant decrease in yogic practices with varma therapy than the control group on Body Mass Index and Pulse Rate among Stressed college boys.

**KEYWORDS :****INTRODUCTION**

Stress is a common phenomenon of modern life. Stress is generally due to conflict emanating from high aspirations and goal attainment. Stress may also result from indecisiveness and/or failure to cope with the demanding situation (Lazarus and Folkman 1984). It is symptoms are the Frequent headaches, jaw clenching or pain, Gritting, grinding teeth, Stuttering or stammering, Tremors, trembling of lips, hands etc., The stress 89% of the Population in India say that are Suffering from Stress compared to the global average of 86%. Nearly 75% of respondents here do not feel comfortable talking to a medical professional about their stress and cite cost as one of the barriers ([www.economictimes.indiatimes.com](http://www.economictimes.indiatimes.com)). Stress hormones are the Adreno corticotropin, cortisol, adrenaline and nor adrenaline. The Stress hormones elevate renin, a kidney enzyme that raises blood pressure; cause chronic illnesses and also damages hippocampus. Prevents stress by inhibiting the activity of sympathetic nerves. Meditation decreases stress hormones. Varma Science is one of the very antiquity and for most sciences (Rajendran T. 2017). Yogic practices and varma therapy helps to promote a balanced development of physical, mental and spiritual wellbeing ([www.yoga point.com](http://www.yoga point.com)).

**STATEMENT OF THE PROBLEM**

The purpose of the study was to find out the effect of yogic practices with varma therapy on Body Mass Index and Pulse Rate among stressed college boys.

**HYPOTHESIS**

It was hypothesized that there would be significant difference in yogic practices with varma therapy than the control group on Body Mass Index and Pulse Rate among stressed college boys.

**REVIEW OF RELATED LITERATURE**

Gupta Net.al., (2016) conducted the study on the effect of yoga based lifestyle intervention on state and trait anxiety and adjustment. Considerable evidence exists for the place of mind body medicine in the treatment of anxiety disorders. Excessive anxiety is maladaptive. It is often supposed to be the major element of unhealthy lifestyle that contributes significantly to the pathogenesis of not only psychiatric but also many other systemic disorders. Among the approaches to reduce the level of anxiety has been the search for healthy lifestyles. The aim of the study was to observe the short-term impact of a comprehensive but brief lifestyle intervention, based on yoga, on anxiety and adjustment levels in normal and diseased subjects. The study was the result of operational research accomplished in the Integral Health Clinic (IHC) at the Department of Physiology of All India Institute of Medical Sciences. The subjects had history of hypertension, coronary artery disease, diabetes mellitus, obesity, psychiatric disorders (depression, anxiety, adjustment and 'stress'), gastrointestinal problems (non-ulcer dyspepsia, duodenal ulcers, irritable bowel disease, Crohn's disease, chronic constipation) and thyroid disorders

(hyperthyroidism and hypothyroidism). The intervention consisted of asanas, pranayama, relaxation techniques, group support, individualized advice, and lectures and films on philosophy of yoga, the place of yoga in daily life, meditation, stress management, nutrition, and knowledge about the illness. The outcome measures were anxiety scores, taken on the first and last day of the course. Anxiety scores, both state and trait anxiety were considerably reduced. Among the diseased subjects substantial improvement was seen in the anxiety levels of patients of hypertension, coronary artery disease, obesity, cervical spondylitis and those with psychiatric disorders. The pre test and post test were conducted before and after the training for all two groups. To analyse the data (ANCOVA) test was used to find out the significant difference between experimental group and the control group. The observations propose that a short educational programme for lifestyle modification and stress management leads to remarkable reduction in the anxiety scores within a period of 10 days.

Michaela C. Pascoe and Isabelle E. Bauer (2015) examined A systematic review of randomised control trials on the effects of yoga on stress measures and mood. Stress related disorders such as depression and anxiety are leading sources of disability worldwide, and current treatment methods such as conventional antidepressant medications are not beneficial for all individuals. There is evidence that yoga has mood-enhancing properties possibly related to its inhibitory effects on physiological stress and inflammation, which are frequently associated with affective disorders. It focuses on studies collecting physiological parameters such as blood pressure, heart rate, cortisol, peripheral cytokine expression and/or structural and functional brain measures in regions involved in stress and mood regulation. Overall randomized control studies discussed provide preliminary evidence to suggest that yoga practice leads to better regulation of the sympathetic nervous system and hypothalamic-pituitary-adrenal system, as well as a decrease in depressive and anxious symptoms in a range of populations. Further research is warranted to confirm these preliminary findings and facilitate implementation in clinical settings.

**METHODOLOGY**

For the purpose of this random group experimental study, thirty (30) Stressed college boys in Chennai were selected at random as subjects based on their Body Mass Index and Pulse Rate and their age was ranged from 18-23 years. Yogic practices with varma therapy were given five days (Monday to Friday) per week for eight weeks. All the subjects were randomly assigned to experimental group and control group each consisted of 15 subjects. Experimental group was involved in yogic practices with varma therapy for eight weeks, and the control group kept in active rest. The Yogic practices with varma therapy includes starting prayer, loosening exercises, suryanamaskar, Pariyarthha Trikonasana, Padahasthasana, Sarvangasana, Matsyasana, Bhujangasana, Ardha Halasana, Vipareeta Karani, Shashangasana, Vakrasana, Janu Sirsasana, Paschimottanasana, Shavasana,

Pranayama; Nadhisodhana Kapalabathi, Bhramari and Nadi shodana Mudra; Shanti mudra, Relaxation; Yoga Nidra; End prayer; Varma points; Pitari varmam, Tilarta varmam, Seerumkolli varmam, Alavadum Channi Kalam, Murthi Varmam, Ruthra Kalam, Patchi varmam, Amirtha Kalam, Piramudichu varmam and chuzhukku Varmam Techniques. Initially pre-test was taken and after the experimental period of eight weeks, post-test was taken from all the two groups. The differences between initial and final Body Mass Index and Pulse Rate variables were considered as the effect of yogic practices with varma therapy on selected subjects. Analysis of Covariance (ANCOVA) test was used to find out the difference among the experimental group and control groups. The test of significance was fixed as 0.05 level of confidence.

**RESULTS AND DISCUSSION**

The data pertaining to the variables collected from the two groups before and after the training period were statistically analyzed by using Analysis of Covariance (ANCOVA) to determine the significant difference and tested at 0.05 level of significance.

**RESULTS ON BODY MASS INDEX**

The Analysis of Covariance (ANCOVA) on Body Mass Index due to yogic practices with varma therapy and control group was analyzed and are presented in table-I.

**RESULTS ON BODY MASS INDEX**

**Table-i Computation Of Analysis Of Covariance Of Experimental Group And Control Group On Body Mass Index (in kg/m<sup>2</sup>)**

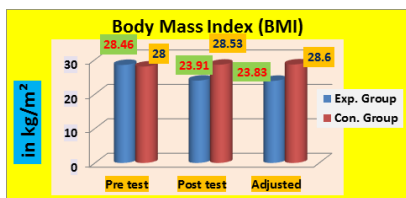
| Test          | YPVT Group | CON Group | SV      | SS     | Df | MS    | F      |
|---------------|------------|-----------|---------|--------|----|-------|--------|
| Pre Test      | 28.46      | 28        | Between | 1.63   | 2  | 1.63  | 1.35   |
|               |            |           | Within  | 33.73  | 28 | 1.20  |        |
| Post Test     | 23.91      | 28.53     | Between | 160.08 | 2  | 80.04 | 74.43* |
|               |            |           | Within  | 30.11  | 28 | 1.07  |        |
| Adjusted Test | 23.83      | 28.6      | Between | 162.82 | 2  | 81.41 | 82.68* |
|               |            |           | Within  | 26.58  | 27 | 0.98  |        |

\* Significant at 0.05 level of confidence (Table F ratio at 0.05 level of confidence for df 1 and 28 = 4.20, 1 and 27 = 4.21).

The obtained F-ratio value for the Body Mass Index were greater than the table value, it indicates that there was a significant difference among post test and adjusted post-test means of the yogic practices with varma therapy group than the control group.

The pre-test, post-test and adjusted post-test mean values of yogic practices with varma therapy and the control group on Body Mass Index were graphically presented in figure 1.

**Figure 1 Bar Diagram Showing The Adjusted Post Test Means Of Experimental And Control Groups On Body Mass Index (in kg/m<sup>2</sup>)**



\*Significant at 0.05 level of confidence

**RESULTS ON PULSE RATE**

The Analysis of Covariance (ANCOVA) on Pulse Rate due to yogic practices with varma therapy and control group was analyzed and presented in table-II.

**Table-II Computation Of Analysis Of Covariance Of Experimental Group And Control Groups On Pulse Rate (in Counts Per Minute)**

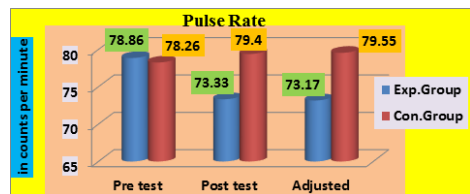
| Test          | YPVT Group | CON Group | SV      | SS     | Df | MS     | F      |
|---------------|------------|-----------|---------|--------|----|--------|--------|
| Pre Test      | 78.86      | 78.26     | Between | 2.7    | 2  | 2.7    | 1.95   |
|               |            |           | Within  | 38.66  | 28 | 1.38   |        |
| Post Test     | 73.33      | 79.4      | Between | 276.03 | 2  | 138.01 | 61.40* |
|               |            |           | Within  | 62.93  | 28 | 2.24   |        |
| Adjusted Test | 73.17      | 79.55     | Between | 285.18 | 2  | 142.59 | 73.30* |
|               |            |           | Within  | 52.51  | 27 | 1.94   |        |

\* Significant at 0.05 level of confidence (Table F ratio at 0.05 level of confidence for df 1 and 28 = 4.20, 1 and 27 = 4.21).

The obtained F-ratio value for the Pulse Rate were greater than the table value, it indicates that there was a significant difference among post test and adjusted post-test means of the yogic practices with varma therapy group than the control group.

The pre-test, post-test and adjusted post-test mean values of yogic practices with varma therapy and the control group on Pulse Rate were graphically presented in figure 2.

**Figure 2 Bar Diagram Showing The Adjusted Post Test Means Of Experimental And Control Groups On Pulse Rate (in Counts Per Minute)**



\*Significant at 0.05 level of confidence

**CONCLUSIONS**

It was concluded that there was significant decreased in yogic practices with varma therapy than the control group on Body Mass Index and Pulse Rate among Stressed college boys.

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