



# Influence Of Yogic Practices On Systolic Blood Pressure Among Physical Education Students

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**Abstract:** To achieve the purpose of this study, 20 men B.Sc. physical education students were randomly selected as subjects from the St. Xavier's college, Palayamkottai, Tirunelveli, Tamilnadu, India. Their age ranged from 17 to 20 years. The selected participants were randomly divided into two groups such as group 'A' yogic practices (n=10) and group 'B' acted as control group (n=10). Group 'A' underwent yogic practices for five days per week and each session lasted for an hour for eight week. Control group was not exposed to any specific training but they were participated in regular activities. The "systolic blood pressure" millimeters of mercury (mmHg) were used to measure Sphygmomanometer was selected as variables. The pre and post tests data were collected on selected criterion variables prior and immediately after the training program. The pre and post-test scores were statistically examined by the dependent 't' test and Analysis of co-variance (ANCOVA). The level of significant was fixed at 0.05 level. It was concluded that the yogic practices group had shown significantly improved in systolic blood pressure. However the control group had not shown any significant improvement on systolic blood pressure.

**Index Terms** – Yogic, Systolic Blood Pressure, Men, Physical Education Students

## 1. INTRODUCTION

Yoga is a process of control over the mind stuff, as defined by Patanjali in his second aphorism in Patanjali Yoga sutras: 1.2 Satyanand Saraswati (2012). The word "Yoga" is derived from the Sanskrit root "Yuj" which means yoke, uniting, or connection. Muktibodhananda S. (2013), in Hath Yoga Pradipika, says, yoga is a union between the individual soul and the supernatural soul. It is a way of life, which can be practiced by any human being regardless of age gender and condition of health it is based on general physical mental practices, which operate all mankind alike. It is an inseparable part of the Indian life and culture. It has come down to us from ancient times with an unbroken tradition.

Yoga is an ancient system of self-spiritual development which provides a holistic approach to man through its ideology and techniques. Nayak & Shankar (2004) Yoga is a science & its practice harmonizes the body and mind. Yoga is very useful for promoting total health. Yoga is alternative forms of physical activity that can help some individuals achieve the recommended level of physical activity. Yoga is increasing in popularity Chandler (2001) and Raub (2002). With a recent report suggested that 15 million Americans have practiced yoga at least once in their lifetime Saper et al (2004). It works effectively in the form of treatment in three ways - preventive, therapeutic, rehabilitation. Kreitzer (2005) Yoga therapy has proved its excellence in psychological disorders and hypertension. Hypertension represents one of the most prevalent old conditions in the Indian population. The main cause of high blood pressure is stress and tension. Yoga can be very effective in dealing with stress and blood pressure. It can fight for reasons, as well as the effects of hypertension and reducing blood pressure can stabilize blood pressure. Asanas calm their mind and make the nervous system regular and balanced, which controls the stress. The sympathetic and parasympathetic nervous system, which is involved in stress response, also gets stabilized in the practice of asanas resulting in regulation of the blood pressure. Asanas, which control blood pressure, belong to the forward bending asanas, the Supine, sitting and the inverse group. Although the forward bending is the fundamental posture prevailing by people suffering from high blood pressure, while adhomukha shavasana is the most beneficial posture for blood pressure. The horizontal position of the spine in these asanas allows

the heart to slow down, because there is no tension to pump the blood against the brain's gravity. Heart rate and cardiac output slow down and blood pressure is controlled simultaneously.

## 2. METHODOLOGY

To achieve the purpose of this study, 20 men B.Sc. physical education students were randomly selected as subjects from the St. Xavier's college, Palayamkottai, Tirunelveli, Tamilnadu, India. Their age ranged from 17 to 20 years. The selected participants were randomly divided into two groups such as group 'A' yogic practices (n=10) and group 'B' acted as control group (n=10). Group 'A' underwent yogic practices for five days per week and each session lasted for an hour for eight week. Control group was not exposed to any specific training but they were participated in regular activities. The "systolic blood pressure" millimeters of mercury (mmHg) were used to measure Sphygmomanometer were selected as variables. The pre and post tests data were collected on selected criterion variables prior and immediately after the training program. The pre and post-test scores were statistically examined by the dependent 't' test and Analysis of co-variance (ANCOVA). The level of significance was fixed at .05 level of confidence, which was considered as appropriate

## 3. RESULTS AND DISCUSSIONS

**TABLE-1**  
**MEANS AND DEPENDENT 'T' TEST FOR THE PRE AND POST TESTS ON SYSTOLIC BLOOD PRESSURE OF EXPERIMENTAL AND CONTROL GROUP**

Criterion variables	Test	Experimental Group Mean	Control Group Mean
Systolic Blood Pressure	Pre test	121.64	121.97
	Post test	118.24	121.53
	't'test	<b>16.34*</b>	<b>1.39</b>

\*Significant at .05 level. (Table value required for significance at .05 level for 't'-test with df 9 is 2.26)

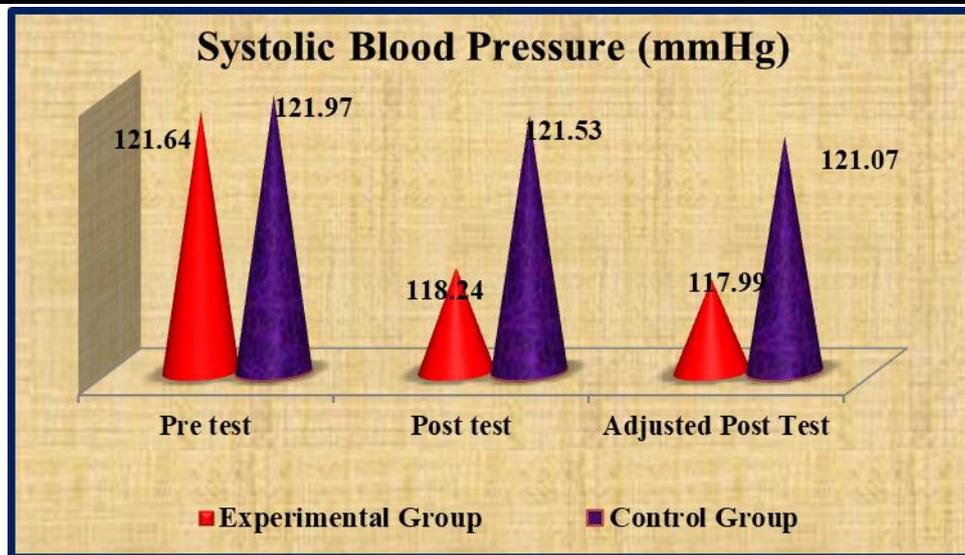
The table-1 shows that the obtained dependent t-ratio values between the pre and posttest means of yogic practices and control groups are 16.34 & 1.39 respectively. The table value required for significant difference with df 9 at 0.05 level is 2.26. From the above table the dependent 't'-test value of systolic blood pressure between pre and post tests means of experimental group was greater than the table value 2.26 with df 9 at .05 level of confidence, it was concluded that the experimental group had significant improvement in the systolic blood pressure when compared to control group.

**TABLE-2**  
**COMPUTATION OF MEAN AND ANALYSIS OF COVARIANCE SYSTOLIC BLOOD PRESSURE OF EXPERIMENTAL AND CONTROL GROUPS**

	Experimental Group	Control Group	Source of Variance	Sum of Squares	Df	Mean Square	F
systolic blood pressure (Adjusted PostMean)	117.99	121.07	BG	709.72	1	709.72	<b>69.17*</b>
			WG	173.74	17	10.22	

\* Significant at 0.05 level. Table value for df 1, 17 was 4.45

Table-2 shows that the adjusted post test means values on systolic blood pressure of experimental and control groups 32.12 & 27.84 respectively. The obtained f- ratio of 24.95 for adjusted post test mean is greater than the table value 4.45 with df 1 and 17 required for significance at 0.05 level of confidence. The results of the study indicated that there was a significant mean difference exist between the adjusted post test means of yogic practices and control groups on systolic blood pressure.



The bar diagram figure-1 shows that the mean values of pre, post and adjusted post tests on systolic blood pressure of yogic exercises and control groups.

#### 4. DISCUSSION ON FINDINGS

The present study demonstrates a statistically significant improvement in systolic blood pressure among physical education students who engaged in yogic practices. These findings align with previous research by Sabapathy, K. R., & Elangovan, R. (2022), Kumar, D., & Singh, R. (2017), and Pandya, N. H., Goswami, T., & Trivedi, R. S. (2020), all of whom reported the positive impact of yoga on cardiovascular health, particularly in regulating blood pressure. One of the primary mechanisms through which yoga contributes to improved systolic blood pressure is its effect on the autonomic nervous system. Regular practice of **asanas** (postures), **pranayama** (breathing exercises), and **meditation** has been shown to enhance parasympathetic activity while reducing sympathetic over activity, leading to better vascular relaxation and reduced blood pressure. Specifically, **slow and controlled breathing techniques** such as Anulom Vilom (alternate nostril breathing) and Bhramari (humming bee breath) have been linked to lower stress hormone levels, improved endothelial function, and enhanced circulation. Moreover, yoga's ability to reduce stress and anxiety plays a crucial role in maintaining cardiovascular health. Increased stress levels are often associated with elevated blood pressure, and yoga's emphasis on mindfulness and relaxation helps in mitigating this effect. This is particularly beneficial for physical education students, who may experience physical and academic stressors that could contribute to fluctuations in blood pressure. These findings suggest that incorporating yoga into physical education programs can serve as an effective, non-pharmacological intervention for maintaining healthy blood pressure levels.

#### 5. CONCLUSIONS

Within the limitations and delimitations of this study the following conclusions were drawn from the result.

1. There was significant improvement on systolic blood pressure due to the effect of yogic exercises among physical education students.
2. However, the control group had not shown any significant improvement on any of the selected variables.

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