

EFFECT OF SIX WEEKS ASANA PRACTICES ON SELECTED PHYSIOLOGICAL VARIABLES AMONG COLLEGE STUDENTS

Mrs. R. Dhivya*, Assistant Professor, Department of Yoga, Shri Paranjothi Yoga College, 113, Sri Paranjothi Nagar, Thirumoorthy Hills, Udumalpet, Tiruppur (Dt), Tamil Nadu – 642 112, E-mail: dhivyadheva007@gmail.com, Mob: +91 94866 94714

Mr. Deb Kumar Das, Assistant Professor, Department of Yoga, Shri Paranjothi Yoga College, 113, Sri Paranjothi Nagar, Thirumoorthy Hills, Udumalpet, Tiruppur (Dt), Tamil Nadu – 642 112, E-mail: debkumar071990@gmail.com Mob: +91 73583 31413

Corresponding author: Mrs. R. Dhivya, Assistant Professor, Department of Yoga, Shri Paranjothi Yoga College, Udumalpet, Tiruppur (Dt) Tamil Nadu – 642 112, Email: dhivyadheva007@gmail.com Mobile: +91 94866 94714

ABSTRACT

The purpose of the study is to find out the effect of six weeks asana practices on selected physiological variables among college students. To achieve the purpose of the study, thirty college students were selected at random from Thirumoorthy Hills, Udumalpet, Tiruppur (Dt), Tamil Nadu in the age group ranging between 20 to 30 years. The subjects were grouped into experimental group and control group randomly. Pre-test and Post-test randomized group design was employed in the study. Fifteen subjects were assigned randomly to each of the two groups namely Asana Practices Group (APG) and Control Group (CG). Experimental group was undergone asana practices and control group served as a active rest in which no training was given. At the end of six weeks the Post-test was conducted for all the two groups. The data for body mass index, heart rate and systolic and diastolic blood pressure was collected twice, that is before the start of study and after six weeks as to record the final performance of the tests. All the scores were collected on the first day before teaching the asana practices to the experimental groups and repeated after a period of six weeks. It was concluded that the significant difference exists among the experimental groups due to the selected asana practices.

KEY WORDS: Asana Practices, Body Mass Index, Heart Rate, Systolic and Diastolic Blood Pressure.

INTRODUCTION

In recent times prevalence of chronic non communicable disease is increasing among youngsters due to changes in food habits and sedentary lifestyle [1].

Recent research trends have shown that almost 13 to 50% of the urban population and 8 to 38% of the rural population suffers from obesity in India [2]. Body mass index (over weight and obesity) is an important cause of chronic disease that increased in last fifteen years [3].

As well as according to World Health Organization (WHO), blood pressure's death rate is increased in 2015. In more that prevalence was common even among younger age groups [4].

Regular practice of yoga helps to keep our body fit, controls cholesterol level, reduces weight, normalizes blood pressure and improves heart performances [5]. One month of yoga practices has been shown to reduce the pulse rate voluntarily without using external cues [6].

REVIEW OF RELATED LITERATURE

Adhikari, A., & Sahu, D. P. (2016) concluded that the effect of yogic exercises on physiological variables among the adolescents. An attempt has been made to investigate the Effect of Yogic Exercises on Physiological Variables among the Adolescents. Fifty male students of U.G. college level were practiced different types of yogic exercises like Surya Namaskar, Asanas, Pranayam and Meditation for eight weeks by maintaining a schedule. The physiological variables are resting heart rate and blood pressure. The resting heart rate was measured by Pulse Oximeter and blood pressure was measured by Omron Blood Pressure Monitor. In results, it was found that there was significant difference between pre-test and post-test. So, it was evident that yogic exercises impact significantly on physiological variables among the adolescents.

Rayat, S. (2015) examined the effect of yoga on selected physical and physiological variables of physical education students. According to medical

scientists; yoga therapy is successful because of the balance created in the nervous and endocrine systems which directly influences all the other systems and organs of the body. Yoga acts both as a “Curative therapy”. The very essence of yoga lies in attaining mental peace, improved concentration powers, a relaxed state of living and harmony in relationship. Regular practice of asana, pranayama and meditation can help such diverse, ailments such as diabetes, blood pressure, digestive disorders, arthritis, arteriosclerosis, chronic fatigue, asthma, varicose veins and heart conditions. Laboratory tests have proved the yogi’s increased abilities of consciously controlling autonomic or involuntary functions, such as temperature, heartbeat and blood pressure. The study was undertaken with the aim to observe the effect of yoga (asana & pranayama) on selected physical & physiological variables of physical education B.P.ED (Bachelor of Physical Education) and M.P.ED (Master of Physical Education) students. For this study total 40 male students were selected as subject from SGGs Khalsa College Mahilpur, Punjab, India. Their age ranged between 18-24 years. Students were given the treatment of selected yogic asana & pranayama for 12 weeks. Result shows that the regular practice of yoga improved physical variables (Muscular strength & endurance of trunk; and flexibility) & physiological variables (Pulse Rate, Vital Capacity & Peak Flow Rate) significantly.

METHODOLOGY

To achieve the purpose of the study is to find out the effect of six weeks asana practices on selected physiological variables among college students. To achieve the purpose of the study, thirty college students were selected at random from Thirumoorthi Hills, Udumalpet, Tiruppur (Dt), Tamil Nadu in the age group ranging between 20 to 30 years. The subjects were grouped into experimental group and control group randomly. Pre-test and Post-test randomized group design was employed in the study. Fifteen subjects were assigned randomly to each of the two groups namely Asana Practices Group (APG) and Control Group (CG). Experimental group was undergone asana practices and control group served as a active rest in which no training was given. At the end of six weeks the Post-test was conducted for all the two

groups. The data for body mass index, heart rate and systolic and diastolic blood pressure was collected twice, that is before the start of study and after six weeks as to record the final performance of the tests. All the scores were collected on the first day before teaching the asana practices to the experimental groups and repeated after a period of six weeks.

RESULTS AND DISCUSSIONS

Statistical findings pertaining to all the variables namely body mass index, heart rate and systolic and diastolic blood pressure are presented in the following tables.

TABLE I
COMPUTATION “t” - TEST OF THE CONTROL GROUP AND
THE EXPERIMENTAL GROUP FOR BODY MASS INDEX

t-Test: Paired Two Sample for Means

	APG Pre Test	APG Post Test	CG Pre Test	CG Post Test
Mean	20.720	20.347	20.933	20.893
Variance	8.870	8.866	8.330	7.628
Observations	15	15	15	15
Pearson Correlation	0.999		0.987	
Hypothesized Mean Difference	0.00		0.00	
Df	14.00		14.00	
t Stat	15.044		0.325	
t Critical two-tail	2.145	2.145	2.145	2.145

“t” ratio at 0.05 level of confidence for the degree of freedom (df) at 14 = 2.145

TABLE II
COMPUTATION “t” -TEST OF THE CONTROL GROUP AND
THE EXPERIMENTAL GROUP FOR HEART RATE

t-Test: Paired Two Sample

	APG Pre Test	APG Post Test	CG Pre Test	CG Post Test
Mean	77.800	75.200	77.133	77.000
Variance	50.743	53.457	42.410	41.143
Observations	15	15	15	15
Pearson Correlation	0.955		0.925	
Hypothesized Mean Difference	0.00		0.00	
Df	14.00		14.00	
t Stat	4.652		0.206	
t Critical two-tail	2.145	2.145	2.145	2.145

“t” ratio at 0.05 level of confidence for the degree of freedom (df) at 14 = 2.145

TABLE III
COMPUTATION T-TEST OF THE CONTROL GROUP AND THE
EXPERIMENTAL GROUP FOR SYSTOLIC BLOOD PRESSURE

t-Test: Paired Two Sample for Means

	APG Pre Test	APG Post Test	CG Pre Test	CG Post Test
Mean	113.667	109.133	112.467	112.200
Variance	151.952	86.410	134.695	129.171
Observations	15	15	15	15
Pearson Correlation	0.945		0.982	
Hypothesized Mean Difference	0.00		0.00	
Df	14.00		14.00	
t Stat	3.769		0.472	
t Critical two-tail	2.145	2.145	2.145	2.145

“t” ratio at 0.05 level of confidence for the degree of freedom (df) at 14 = 2.145

TABLE IV
COMPUTATION T-TEST OF THE CONTROL GROUP AND THE
EXPERIMENTAL GROUP FOR DIASTOLIC BLOOD PRESSURE

t-Test: Paired Two Sample for Means

	APG Pre Test	APG Post Test	CG Pre Test	CG Post Test
Mean	70.200	67.400	70.800	70.133
Variance	103.029	92.971	60.314	53.552
Observations	15	15	15	15
Pearson Correlation	0.929		0.459	
Hypothesized Mean Difference	0.00		0.00	
Df	14.00		14.00	
t Stat	2.881		0.329	
t Critical two-tail	2.145	2.145	2.145	2.145

“t” ratio at 0.05 level of confidence for the degree of freedom (df) at 14 = 2.145

DISCUSSION OF FINDINGS

The present study showed that the six weeks of asana practices had significant effect on physiological variables namely, body mass index, heart rate, systolic and diastolic blood pressure was significantly lowered to control group. Results from several investigations involving suggest that asana pranayama practices may be useful for enhancing performance.

CONCLUSION

Yoga can play an important role in our life which is helpful in improving life-style and also in bringing down the prevalence of medical emergencies. Yoga is considered to be one of the most important, effective and valuable tool that may overcome various physiological problems. Significant the effect of six weeks asana practices on selected physiological variables among college students of age group ranging between 20 to 30 years.

REFERENCES

1. Musaiger, Abdulrahman & Al-Hazzaa, Hazzaa. (2012). Prevalence and risk factors associated with nutrition-related non-communicable diseases in the Eastern Mediterranean Region. *International journal of general medicine*. 5. 199-217. 10.2147/IJGM.S29663.
2. Mahajan, K., & Batra, A. (2018). Obesity in adult asian indians-the ideal BMI cut-off. **Indian heart journal**, 70(1), 195. Bera TK, rajapurkar MV, Body composition, cardiovascular endurance and anaerobic power of yogic practitioner, *Indian J PhysiolPharmacol*. 1993 Jul.
3. World Health Organization. **Global Health Observatory (GHO) data** https://www.who.int/chp/chronic_disease_report/media/india.pdf?
4. Jose, A. P., & Prabhakaran, D. (2019). World Hypertension Day: Contemporary issues faced in India. **The Indian journal of medical research** 149(5), 567.
5. Yuvaraj, D. (2016). Effect of asana and pranayama practices on selected physical and physiological variables of college men. **International Journal of Physical Education, Sports and Health** 3(5), 204-205.
6. Raghavendra, B., Telles, S., Manjunath, N., Deepak, K., Naveen, K., & Subramanya, P. (2013). Voluntary heart rate reduction following yoga using different strategies **International journal of yoga**, 6(1), 26–30.
7. Adhikari, A., & Sahu, D.P. (2016). Effect of yogic exercises on physiological variables among the adolescents.

8. Rayat, S. (2015). Effect of yoga on selected physical and physiological variables of physical education students. **IOSR Journal of Sports and Physical Education** 2(4), 18-24.