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Effects of yoga on blood pressure among secondary girls students of Madrasah in West Bengal

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Abstract

According to medical science, 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. The study was undertaken with the aim to observe the effect of yoga (asana) selected yoga training on blood pressure. For this study total 20 Girls students were selected as subject form of Government aided High Madrasah of Malda district, West Bengal. Their age ranged between 13-16 years. Students were given the treatment of selected yogic asana for 5 weeks and consisted of daily sessions, lasting 40 min. Both systolic and diastolic blood pressures were measured with the auscultatory method by using sphygmomanometer and stethoscope. The mean and t-test applied the interpretation of data. The level of significance was set at 0.05.

Key words: Blood pressure, Madrasah, Yogasanas, Secondary level, Girls.

1. Introduction

Yoga is a spiritual science for the integrated and holistic enlargement and magnification of our physical, mental as well as moral-spiritual facets. Yoga is based on the philosophy that is practical and useful for our daily lives. Yoga constructs desirable physiological alterations and has sound scientific foundations. The most important benefit of yoga is physical and mental therapy. Indians have given great importance to “yoga” and “physical exercises” not only to prevent or cure the physical ailments/diseases but to keep fit also. Yoga is ultimate for developing harmony among body, mind and spirit. Yoga asana are ways of moving and/or holding the body in different position. Yoga asana has several exercises or postures that work wonders on fitness and health. Yoga asana boost physical strength, stamina and flexibility, improve blood circulation, enhance posture and muscle tone and bestow greater powers of concentration and self-control. To compare with other games and exercises which provide only muscular and cardio-vascular fitness, Yoga gives an all-round development and as a result this study was undertaken to find out the effects of selected yogasanas on blood pressure.

2. Methodology

The present study was done to know the effect of yoga on blood pressure in healthy volunteers above the age of 13 years. Twenty purposively selected girls blood pressure from Government aided High Madrasah, Malda district of West Bengal. Subjects were assigned into two groups: A (experimental: N-10) and B (control: N-10). All subjects, after having been informed about the objective and protocol of the study, gave their written consents. The subjects from Group A were subjected to a 5-week yogic exercises training program. This lasted 5- weeks and consisted of daily sessions, lasting 40 min each, which included five Asanas: Pachimottanasan, Garbhasana, Navasana, Tadasana and Sarvangasana. The six days in a week was observed in training. Both systolic and diastolic blood pressures were measured with the auscultatory method by using sphygmomanometer and stethoscope. Three readings were taken and their average was recorded. Three readings were taken and their average was recorded.

3. Result and Finding of the Study

The between-group differences were assessed using the Student’s t-test for dependent data. The level of 0.05 was considered significant.

Table 1

Mean, SD and t-values of systolic blood pressure of girls of control and experimental group during Pre test and Post test

Group	Test	N	Mean (mm Hg)	Sd	t-value
Control Group	Pre test	10	119.1	1.79	1.58
	Post test	10	117.4	2.95	
Experimental Group	Pre test	10	121.5	2.61	3.25
	Post test	10	116.7	4.68	

Significant at 0.05 level

Table1 shows the mean, S.D and't' values of systolic blood pressure of High Madrasah girls of control group and experimental group. Pre-Test mean and S.D. value of control group has been calculated as 119.1 mm Hg ± 1.79 whereas mean and S.D. value of post test were found to be 117.4 mm Hg ±2.95 when t-test was applied it has shown the 1.58 value which in non-significant at 0.05 level. Pre-Test mean and S.D. value of experimental group has been calculated as 121.5 mm Hg ± 2.61 whereas mean and S.D. value of post test were found to be 116 mm Hg ± 4.68 when t-test was applied it has shown the 3.25 value which in significant differences in this group.

Table 2

Mean, SD and t-values of diastolic blood pressure of girls of control and experimental group during Pre test and Post test

Group	Test	N	Mean (mm Hg)	Sd	t-value
Control Group	Pre test	10	84.8	5.02	2.43
	Post test	10	80.5	2.59	
Experimental Group	Pre test	10	82.36	4.63	1.65
	Post test	10	80.8	3.73	

Table 2 shows the mean S.D. and t-test values of diastolic blood pressure of males of control group and experimental group. Pre-Test mean and S.D. value of control group has been calculated as 84.8 mm Hg ± 5.02 whereas mean and S.D. value of post test were found to be 80 mm Hg ±2.59 when t-test was applied it has shown the 2.43 value which in non-significant at 0.05 level. Pre-Test mean and S.D. value of experimental group has been calculated as 82.36 mm Hg ± 4.63 whereas mean and S.D. value of post test were found to be 80.8 mm Hg ± 3.73. when t-test was applied it has shown the 1.65 value which in significant differences in this group.

4. Discussion

Yoga provides the path to achieve greater perfection of the body, life and mind. Yoga promotes a harmonious working together of the body's components leading to both physical and mental training. Asana play significant role in toning up the neuro-muscular glandular system of the body to maintain the vitality of bodily organs. It is natural to ask whether the progress toward perfection is reflected in objective reproducible changes in physiological variables. The significant change in diastolic blood pressure observed in the present study suggests that Yogic exercises might have any immediate effect on peripheral vascular resistance and to reduce heart rate. Results of this study also supported by (Joshi et al. 1992) who suggest that Yogic asana and pranayama have been shown to reduce the physiological parameters such as resting respiratory rate and increase vital capacity, timed vital capacity, maximum voluntary ventilation, breath holding time and maximal aspiratory and expiratory pressures.

5. Conclusion

Significant difference was observed on the variable blood pressure as a result of yoga practice treatment. Insignificant difference between pre and post test of control group was observed. In conclusion, the present study suggests that a 5- week of yoga practice training had significant effect on blood Pressure through a variety of effects including increases, endurance, strength, and better flexibility, and promote a balanced development of the body parts,

reduce stress. These data provide more evidence to support the beneficial effect of yoga asana training on reducing blood pressure.

6. References

[1]. Milton, A., Irene A. S. (1972). Handbook of Mathematical Functions, with Formulas, Graphs, and Mathematical Tables. Washington, D.C. U.S. Government Printing Office.

[2]. George, E.P., William, G., Hunter, J., Stuart H. (1978). Statistics for Experimenters: An Introduction to Design, Data Analysis, and Model Building. New York: John Wiley and Sons.

[3]. Cowen. V., Admas, T., (2005). Physical and perceptual benefits of yoga asana practice: results of a pilot study. Journal of Bodywork and Movement Therapies, 9(3), 211-219.

[4]. Joshi, L.N., Joshi, V.D., Gokhale, L.V. (1992). Effect of short term pranayama practice on breathing rate and ventilator function of lung. Indian Jl. Physiol Pharmacol, 36(2), 105-108.

[5]. Raub, J.A. (2002). Psycho physiological effects of hatha yoga on musculoskeletal and cardiopulmonary function: A Literature Review. The Journal of Alternative and Complementary Medicine, 8(6), 797-812.

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