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Effect of yogic practice on blood pressure among female IT professionals

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Abstract

Objective: This study was designed to investigate blood pressure using Yogic Practices on female IT Professionals.

Methods: An empirical study was performed on female IT Professionals (n = 30), aged 25–35 years. The subjects were categorized into treatment group I (n =15) (yogic practice), and group II acted as control group (n =15). All the subjects were tested before and after twelve weeks of yogic practice on blood pressure.

Results: There are significant differences in blood pressure for working women group.

Conclusion: This empirical study indicated that regular yogic practices on IT female professionals will be beneficial for blood pressure.

Keywords: Yogic practice, systolic blood pressure, diastolic blood pressure, female IT professionals

Introduction

Yoga is a complete science of life that originated in India many thousands of years ago. It is the oldest system of personal development in the world, encompassing body, mind and spirit. The ancient yoga had a profound understanding of man's essential nature and what he needs to live in harmony with himself and his environment. They perceived the physical body as a vehicle, with the mind as the driver, the soul as man's identity, and action, emotion and intelligences as the three forces which pull the body-vehicle. For there to be integrated development these three forces must be in balance. Taking in to account the inter relationship between body and mind, the yogis formulated a unique method for maintaining the balance – a method that combines all the movements we need for physical health with the breathing and meditation technique that ensure peace of mind. (Swami Vishnu Devananda, 2000)

The application of yoga as a therapeutic intervention, which began early in the twentieth century, takes advantage of the various psychophysiological benefits of the component practices. The physical exercises (asanas) may increase patient's physical flexibility, coordination, and strength, while the breathing practices and meditation may calm and focus the mind to develop greater awareness and diminish anxiety, and thus result in higher quality of life. Other beneficial effects might involve a reduction of distress, blood pressure, and improvements in resilience, mood, and metabolic regulation.

Methodology

For the purpose of this study 30 female IT Professionals were selected randomly from Endurance International Group, Bangalore, (Karnataka). Their age ranged from 25 to 35 years. The subjects were divided into two equal groups such as treatment group (n = 15) and one control group (n = 15). Treatment groups underwent yogic practice for twelve weeks, training was given five days per week, during morning section only (7.00 a.m. to 8.30 a.m.). The subjects were tested on the variables - systolic blood pressure and diastolic blood pressure measured by using sphygmomanometer test at the beginning and the end of the experimental period. All the subjects were informed about the nature of the study and their consent was obtained to co-operate until the end of the experiment and testing period.

The data collected from the two groups before and after the experimental period was statistically examined to find out the significant improvement using the analysis of covariance (ANCOVA).

Selection of Criterion Measures Test

After reviewing the obtainable literature, the following standardized tests were selected and used to collect the related data on the selected dependent variables and they are presented in table 1.

Table 1: Selection of tests

Variables	Test/Method/ Instrument	Unit of Measurement
Systolic Blood Pressure	Sphygmomanometer	In mm/hg
Diastolic Blood Pressure		In mm/hg

Test Administration

To measure systolic and diastolic blood pressure.

Equipment's

Mercury sphygmomanometer, cuff, stethoscope

Procedure

The sphygmomanometer is placed on a bench where the

subject cannot see the mercury column. Blood pressure is recorded after the subject has rested quietly for 5 minutes, and this measure should precede all other measures. The subject is seated with the arm resting on the bench, the elbow approximately at the level of the heart. Blood pressure measurement: sphygmomanometer. The cuff is attached, the pressure then increased to approximately 180 mm Hg. The stethoscope is placed over the brachial artery in the cubital fossa. The pressure is released at a rate of approximately 2 mm per second. The pressure at which the first sounds are heard (systolic pressure) and the pressure when all sounds disappear (diastolic pressure) are recorded.

Scoring

Blood pressure is recorded in the units of millimeters of mercury (mm Hg). Normal blood pressure is usually considered to be 120 for systolic and 80 for diastolic pressure - the same for both men and women. Medical treatment should be sought if measurements in the high category are recorded consistently.

Table 2: Analysis of Covariance for Systolic Blood Pressure among control and treatment groups

Groups	Control Group	Yogic Practice Group	Source of Variance	Sum of Square	Df	Mean square	'F' Ratio	Sig.
Pre-test Mean S.D.	131.20	130.73	B	1.63	1	1.63	0.01	0.92
	15.12	8.90	W	4307.33	28	153.833		
Post-test Mean S.D.	131.40	125.93	B	224.13	1	224.13	1.55	0.22
	14.74	8.46	W	4040.53	28	144.31		
Adjusted Post-test Mean	131.18	126.16	B	188.79	1	188.79	88.47*	0.00
			W	60.34	27	2.24		

Note. * = $p < .05$, *** = $p < .001$. Standard Deviations appear in parentheses below means.

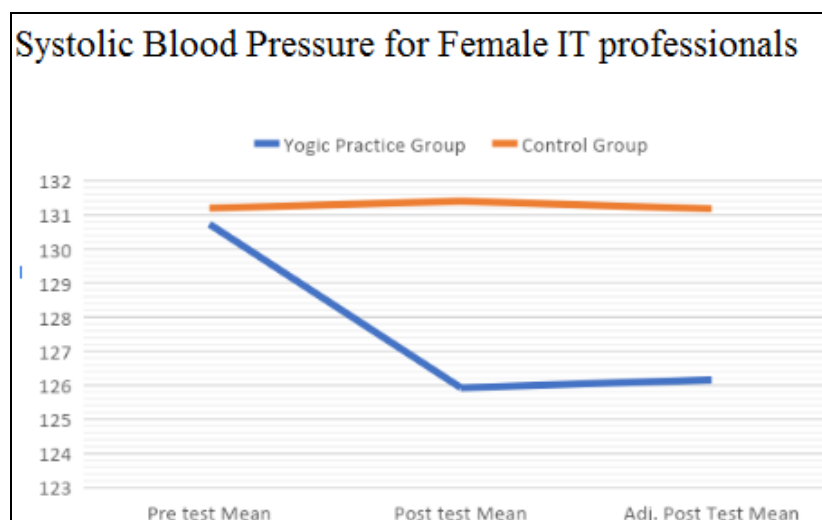
The 15 participants in the control group had an average systolic blood pressure of 131.20 mm/hg (SD = 15.12); the 15 participants in this group, and the 15 participants in the yogic practice group had a mean of 130.73 mm/hg (SD = 8.90). Before the treatment the groups on systolic blood pressure were identical, therefore, was insignificant, $F(1,28) = 0.01$, $p = 0.92$.

The 15 participants in the control group had an average systolic blood pressure of 131.40 mm/hg (SD = 14.74); the 15 participants in this group, and the 15 participants in the yogic practice group had a mean of 125.93 mm/hg (SD = 8.46). After the treatment the groups on systolic blood pressure

where not identical, therefore, was insignificant, $F(1,28) = 1.55$, $p = 0.22$.

The 15 participants in the control group had an average systolic blood pressure of 131.18 mm/hg, and the 15 participants in the yogic practice group had a mean of 126.16 mm/hg. Adjusted post-test mean value for systolic blood pressure were non-identical, therefore, was significant, $F(1,27) = 88.47$, $p = 0.00$.

Since $p\text{-value} = 0.000 < \alpha = 0.05$, we reject null hypothesis. There is enough evidence to conclude that the average systolic blood pressure on IT female professionals is different between yogic practice group and the control group.



Graph 1: Representing means systolic blood pressure for two groups.

Table 3: Analysis of Covariance for Diastolic Blood Pressure among control and treatment groups

Groups	Control Group	Yogic Practice Group	Source of Variance	Sum of Square	Df	Mean square	'F' Ratio	Sig.
Pre-test Mean S.D.	85.20 8.92	84.93 10.53	B W	0.53 2665.33	1 28	0.53 95.19	0.006	0.94
Post-test Mean S.D.	85.60 8.22	76.67 7.03	B W	598.53 1636.93	1 28	598.53 58.46	10.24	0.003
Adjusted Post-test Mean	85.51	76.76	B W	574.15 980.22	1 27	574.15 36.31	15.82*	0.00

Note. * = $p < .05$, *** = $p < .001$. Standard Deviations appear in parentheses below means.

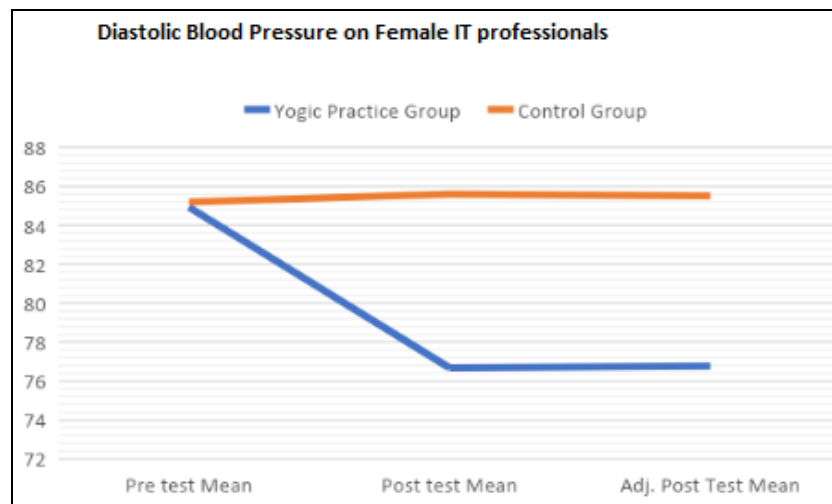
The 15 participants in the control group had an average diastolic blood pressure of 85.20 mm/hg (SD = 8.92); the 15 participants in this group, and the 15 participants in the yogic practice group had a mean of 84.93 mm/hg (SD = 10.53). Before the treatment the groups on diastolic blood pressure were identical, therefore, $F(1,28) = 0.006$, $p = 0.94$.

The 15 participants in the control group had an average diastolic blood pressure of 85.60 mm/hg (SD = 8.22); the 15 participants in this group, and the 15 participants in the yogic practice group had a mean of 76.67 mm/hg (SD = 7.03). After the treatment the groups on diastolic blood pressure were not identical, therefore, was insignificant, $F(1,28) = 10.24$, $p =$

0.003.

The 15 participants in the control group had an average diastolic blood pressure of 85.51 mm/hg, and the 15 participants in the yogic practice group had a mean of 76.67 mm/hg. Adjusted post-test mean value for diastolic blood pressure were non-identical, therefore, was significant, $F(1,27) = 155.82$, $p = 0.00$.

Since $p\text{-value} = 0.000 < \alpha = 0.05$, we reject null hypothesis. There is enough evidence to conclude that the average diastolic blood pressure in school female teachers are different between yogic practice group and the control group.



Graph 2: Representing means diastolic blood pressure for two groups

Discussion

The purpose of the present study was to analyze the effect of yoga practice on systolic and diastolic blood pressure. The finding of the study reveals that significant improvement on systolic and diastolic blood pressure of treatment group than the control group after the twelve weeks of experimental training program.

Term of training program period was adequate the result came out as significant, and the study has significant result supported by Chauhan, A., Semwal, D. K., Mishra, S. P., & Semwal, R. B. (2017) [1], Mullur, R. S., & Ames, D. (2016) [2], Himashree, G., Mohan, L., & Singh, Y. (2016) [3], Telles, S., Sharma, S. K., & Balkrishna, A. (2014) [4]. Routine Yoga Practice results in the systolic and diastolic blood pressure controls and become to normal stage, which improve the mental stability (calmness) of individual, which leads to teach the topics without any stress by the female teachers.

Conclusion

Based on findings and within the limitations it was concluded that of the participation in twelve weeks of yoga practice had a significant improvement on systolic and diastolic blood

pressure on female IT Professionals. The researcher suggests that yoga practice should be introduced to students, teaching and non-teaching staffs at each level of education system.

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