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Effect of Yogic Practices on Diastolic Blood pressure in Middle Aged Men

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Abstract
The present study was undertaken primarily to assess the effectiveness of yogic practices on controlling Diastolic blood pressure. For the study, 30 middle aged men aged between 35 and 40 years (mean ± S.D. 37.5 ± 1.5 years) were randomly selected. The selected subjects for the present study were divided into two groups, namely yogic practice group and control group. The control group was not given any training. The experimental group practiced yoga, weekly six days i.e. Monday to Saturday, between 6.00 A.M. to 8.00 A.M., for a period of twelve week. Blood pressure was measured by indirect method using sphygmomanometer and stethoscope, as recommended by Cromwell diastolic blood pressure were significantly decrease as a result of yoga practice.

Keywords: Yogic Practices, Diastolic Blood pressure, Middle Aged Men.

Introduction
Yoga has also been described as wisdom in work or skillful living amongst activities, harmony and moderation. "Yoga is not for him who gorges too much, nor for him who starves himself. It is not for him who steps too much, nor for him who stays awake. By moderation in eating and resting, by regulation in working and by concordance in sleeping and waking, yoga destroys all pain and sorrows".

Yoga is an ancient philosophical and religious tradition which is thought to have originated in India in at least 1000 B.C. It refers to a large body of values, attitudes and techniques whose primary objective is the pursuit of enlightment or self-knowledge. The word yoga is probably derived from the Sanskrit word "Yuj" which means to "unite" or "connect" and, in the higher levels of yoga, this is often said to mean the experience of union of the individual self with the universal self.

Methodology
The present study was undertaken primarily to assess the effectiveness of yogic practices on controlling Diastolic pressure. For the study, 30 middle aged men aged between 35 and 40 years (mean ± S.D. 37.5 ± 1.5 years) were randomly selected. The selected subjects for the present study were divided into two groups, namely yogic practice group and control group. The control group was not given any training. The experimental group practiced yoga, weekly six days i.e. Monday to Saturday, between 6.00 A.M. to 8.00 A.M., for a period of twelve week. Blood pressure was measured by indirect method using sphygmomanometer and stethoscope, as recommended by Cromwell.

Physiological Variables:
Blood pressure - Diastolic
Test Administration
Measurement of Blood Pressure
Blood pressure was measured by indirect method using sphygmomanometer and stethoscope, as recommended by Cromwell For measuring blood pressure, the subjects were asked to report early in the morning and were allowed to reflex for half an hour by lying down on the mattress. After ensuring that the subjects were relaxed mentally and physically, they were asked to sit in a chair and the cuff of the sphygmomanometer was placed on the right upper arm of the subject. The stethoscope was placed over the brachial artery downstream from the cuff.
The pressure cuff on the upper arm was inflated by pressing the rubber bulb and the cuff was inflated till no sounds were heard in the stethoscope, as the brachial artery has been collapsed by the pressure of the cuff. The pressure in the cuff was then gradually reduced by deflating the cuff through the valve. As the cuff started deflating gradually small sound called "korotkoff" sounds were heard through the stethoscope, at this stage the mercury level in the manometer was recorded and this recording was taken as diastolic blood pressure.
The pressure of the cuff that was indicating on the manometer when the first "korotkoff" sound was heard, was recorded as the diastolic blood pressure. As the deflation continued and the pressure started falling at one stage the "korotkoff" sounds disappeared as the pressure was no longer sufficient to occlude the vessel.
The data collected from the two groups prior to experimental treatment as pre-test data and after twelve weeks of training on diastolic and diastolic blood pressure were statistically examined for significant difference, applying the analysis of covariance (ANCOVA). No attempt was made to equate the groups in any manner. Hence to make adjustments for difference in the initial means and test the adjusted post-test means for significant differences, the analysis of covariance was used.

Diastolic Blood Pressure
The data collected prior to and after the experimental period on diastolic blood pressure for yogic practice group and control group were analysed and presented in Table – I.

Table I: Analysis of Covariance on Diastolic Blood Pressure of Yogic Practice Group and Control Group

	Yogic Practice Group	Control Group	Source of Variance	Sum of Square	df	Mean Square	'F' ratio
Pre- test Mean S.D.	89.40 3.996	88.93 4.301	**Between** **Within**	1.633 482.533	1 28	1.633 17.233	0.095
Post-test Mean S.D.	87.67 3.976	90.13 4.086	**Between** **Within**	45.633 455.067	1 28	45.633 16.252	2.808
Adjusted Post-test Mean	87.452	90.348	**Between** **Within**	62.656 48.116	1 27	62.656 1.782	35.16*

* Significant .05 level of confidence.
(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

Table – I showed that the pre-test mean values of diastolic blood pressure for yogic practice group and control group were 89.40 ± 3.996 and 88.93 ± 4.301 respectively. The obtained 'F' ratio value of 0.095 for pretest scores of yogic practices group and control group on diastolic blood pressure was less than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence.

The post-test mean values for diastolic blood pressure for yogic practice group and control group were 87.67 ± 3.976 and 90.13 ± 4.086 respectively. The obtained 'F' ratio value of 2.808 for post-test scores of yogic practices group and control group was lesser than the required table value of 4.20 for significance with df 1 and 28 at .05 level of confidence.

The adjusted post-test mean values of diastolic blood pressure for yogic practice group and control group were 87.452 and 90.348 respectively. The obtained 'F' ratio value of 35.16 for adjusted post-test scores of yogic practice group and control group were greater than the required table value of 4.21 for significance with df 1 and 27 at .05 level of confidence.

The mean values of yogic practice group and control group on diastolic blood pressure were graphically represented in Figure - I.

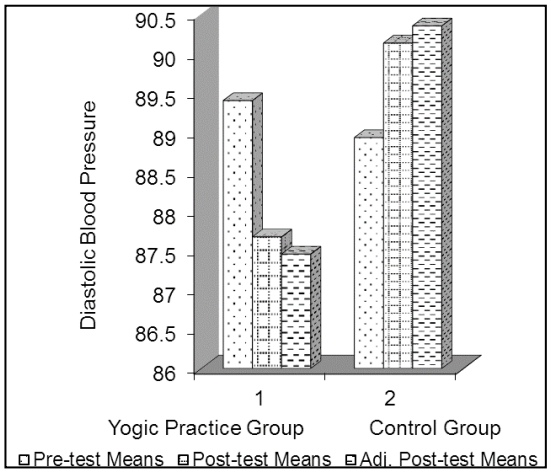

Fig I: Bar Diagram Showing the Mean Values of Yogic Practice Group and Control Group on Diastolic Blood Pressure

Conclusion

The results of this study showed that there was a significant difference between yogic practice group and control group on diastolic blood pressure. Moreover, the result of the study also shown that there was a significant decrease in diastolic blood pressure after the yogic practice when compared with the control group.

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