

Study of Effect among Selected Yogic Exercises On Reducing Blood Pressure

Abstract

The present was undertaken to study the effect of selected yogic exercise on reducing blood pressure. A sample of 20 female blood pressure patients was selected and categorized into experimental and controlled group. Mean Slandered Deviation and t-ratio were used to analyze the data. The result of study showed there is significant difference in pre test and post value i.e. the variation of diastolic blood pressure has also decreased after performing yogic exercises.

Keywords: Study, Effect, Yogic Exercise, Blood Pressure

Introduction

Technological changes have reached into every crevice of life. These changes have undoubtedly resulted into the enhancement of quality of life but at the same time proved to be stress among people. Physiological and psychological stress emerges as a result of growing deficit between daily demands and coping resources. Today it is virtually impossible to avoid stress. Many try but they find that the avoidance strategies frequently generate more stress rather than reducing it. Due to the imbalances of humanity Swami Dyanand Saraswati rightly said, go back to Vedas. Yoga is most prestigious field of spiritualism. It is best known as set physical practice that includes gentle stretches, breathing practices, and relaxation. The new and complex problems passed to the human individual because of the galloping speed of science and technology demands an equally scientific approach for facing them. The student in University, the worker in factory, the farmer in field, the businessman in shop, the engineer, the administrator office-every one of themes subject to own peculiar gnawing problems which demand answer.

The concept of positive health and life long learning and relatively new concepts which need to be promoted. An overall development of the individual is intended to be achieved to cognitive skills. Yoga deals with problems of human nature and human psychology through a vast repertory of practical methods which aim towards purification, regulation and awakening of human potential. At present, yoga is passing through a momentous period of growth consolidation expansion with its rapid integration into modern society. Many institutions dealing with theory of yoga and its practice have come up. At many levels we can see changes and new developments as yoga is being applied in different facts of life in a variety of new ways, such as a form therapy a technique of health and stress management.

Objectives of the Study

To find out the effect of selected yogic exercise on blood pressure.

Hypothesis

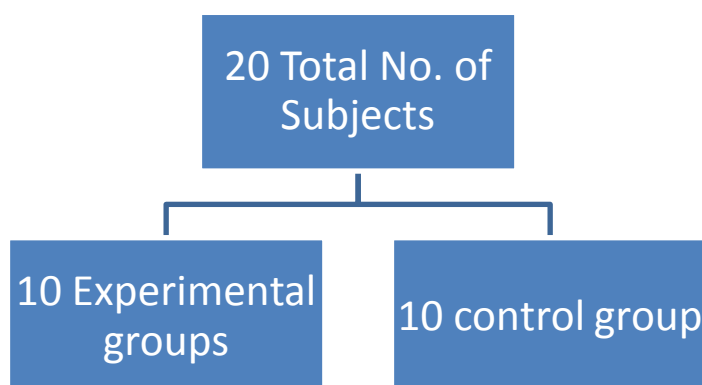
There will be significant effect of yogic exercise on Blood Pressures.

Sample

The study was an experimental study. In this study 20 female blood pressure patients were selected as subjects for this study. Subjects were categorized into two groups, namely experimental and control groups. In each group there are 10 subjects.

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The present study was conducted on female subjects of 30 to 60 years of age. The data were collected from the Hoshiarpur district of the Punjab (INDIA).

Review of Literature

Sinha. B (2002) examined the role of Surya Namaskar (SN) on male Volunteer of Indian army. The present study was undertaken to observe critically the energy cost and different cardio respiratory changes during the practice of SN. 21 male volunteers from the Indian Army practiced selected yogic-exercise for six days in a week for three months duration. The yogic practice schedule consisted of Hath yogic Asana (28), Pranayama (10), and Meditation (5 min) in the yogic practice schedule 1st they practiced Kapal Bhathi (breathing maneuvers) for 2 min then yoga mudra (Yogic postural exercise) for 2 min, after that they look rest until oxygen consumption and heart rate came to resting value. Subsequently subjects performed SN for 3 min 40 seconds on an average. Pulmonary ventilation, carbon dioxide output, oxygen consumption, heart rate and other cardio respiratory parameters were measured. During the actual practice of Surya Namaskar. Oxygen consumption was highest in the eighth posture and lowest in the first posture. Anaerobic exercise SN seemed to be ideal as it involves both static stretching and slow dynamic component of exercise with optimal stress on the cardio respiratory system.

Bhole and Karmbelkar (2003) investigated the effect of yoga training on vital capacity and "Breath holding time". Their sample comprised 147 male 139 female taken from three 5 weeks yoga camps conducted in Delhi. The age group was 18-50 years. Treatment of 20 asana 2 pranayama and kriyas were given to the samples. The results indicated an average increase of 15 seconds in breath holding time as well as vital capacity indicates achievement of better health through regular practice of yogic asana, pranayama and kriyas.

Gore.M.M. (2006) forty eight residential school boys, in the age range of 10-15 years were tested for training and detraining of youga on EEG alpha, and autonomic functions. The experimental group (N=24) was given 45 minutes yoga intervention daily for 45 days. The control group did not receive any training. The trend of results in experimental group showed increase in alpha index by 10% in heart rate by 7 beats men and in PEFR by 11 liters/min.

There was no change in blood pressure and respiration rate decreased by 2 breath \ min in comparison to detraining phase. There was non significant drop in alpha index by 30-32% and reduction in heart rate by 7 beats \ min systolic and diastolic BP reduced by 7 and 4mm HG. The control group (N-24) showed non significant changes. This suggests that the yoga training leads to improved autonomic functions, physiological arousal and better attention required for the optimum learning efficiency.

Sahai, Ajit (2004) investigated the modulation of cardiovascular response to exercise by yoga training. This study reports the effects of yoga training on cardiovascular response to exercise and the time course of recovery after the exercise. Cardiovascular response to exercise was determined by Harvard step test using a platform of 45 cm height. The subjects were asked to step up and down the platform at a rate of 30/min for a total duration of 5 min or until fatigue, whichever was earlier. Heart rate of (hr) and blood pressure response to exercise were measured in supine position before exercise after 1, 2, 3,4,5,7 and 10 minutes after the exercise. Exercise produced a significant increase in HR, systolic pressure, and decrease in diastolic pressure. After two months of yoga training, exercise induced changes in these parameters were significantly reduced. It is concluded that after yoga training a given level of exercise leads to a milder cardiovascular response, suggesting better exercise tolerance.

Kesari (2006) investigated the effect of yogasana and pranayama on urea clearance and creatinine clearance values. 30 male students of medical college. Aurangabad in the age group of 17-20 years was studied. These effects were compared with those of non-yogic exercise performed by similar group 30 male students of the same age group. At the end of two months period urea clearance and creatinine clearance values of the group performing yogasanas and pranayama were significantly raised where as these values mostly remained unchanged in the group performing non yogic exercise.

Shosh. S.K (2006) the purpose of the study was to analyses comparative effect of physical exercise yogic practices and their combination on selected physiological variable among high school girls. Sixty school girls were selected at random basis and were divided into equal four groups namely only physical exercise group yogic practices group the

combination group and a control group. The experimental group under took six week practice programme for collecting the data. The data were collected on the basis of selected physiological variables on namely pulse rate respiration rate and mean arterial. It appears that physical exercise and yogic practices of too short duration can not bring any appreciable effect in alteration of physiological function like mean arterial pressure but has a same effect on cardio respiratory function. The women participated in a 70 minute ledger yoga elders taught by a registered yoga teacher twice a week for eight weeks. The practice consisted of the practices and poses given to then the researcher measured two main variables before and after the 8 week programme. The menopausal specific quality of life survey measured vasomotor physiological and sexual functioning and the sit and reach test assessed hamstring flexibility. Five participants reported a decrease in quality of following the 8 week programme. Four participants showing on the sit and reach test.

Mundewadi (2007) investigated effect of pranayama training on Parasympathetic functions on healthy volunteers. 50 male medical students volunteered to undergo pranayama training. At the start of study basal heart rate, expiration inspiration ratio and lying to standing (30th to 15th ratio) tests were determined. The subjects were given training in Kapalabhati, Yogic Savasana, Bhashtrika, Nadisuddhi and Bhramari for 45 minute daily for 6 days per week for one duration of 2 months. At the end of training session all three were tests were repeated. Results of our study revealed a significant reduction in basal heart rate and increase in expiration \ inspiration ratio 30th / 15th ratio (standing to lying test). This indicates increase in Parasympathetic tone. The conclude that pranayama training shifts autonomic more Parasympathetic, leading to reduction of stress on heart.

Sultana.D (2007) investigated the effect of 12-weeks cycling and pranayama on selected respiratory variables 60 women post graduates

studied in Pondichery groups that it one control group (N-15) and three experimental groups (N-15). Group-1 practiced cycling. Group-2 practiced pranayama and group-3 practiced combination of cycling and pranayama five days a week for a period of 12 weeks. All the subjects were tested in the selected respiratory variables such as respiratory rate, tidal volume and vital capacity before and after 12 weeks of cycling and pranayama. It concludes that there is a significant change on respiratory rate, tidal volume and vital capacity after the 12 weeks of cycling and pranayama practices.

Gharote.M.L (2008) investigated effect of 10 minutes Kapalabhati on some physiological functions. Physiological functions were studied in 12 healthy and trained subjects before, during and after 10 minutes Kapalabhati on 8 channel polygraph. Heart rate and eye movements increased and finger pulse rate volume decreased significantly during significant change was found in EEG and blood pressure. An apneic condition was observed immediately after Kapalabhati.

Tools

Selection of the suitable instruments of tools is vital for the collection of accurate data in any research work. One may use one or more tools according to the purpose of study. Keeping in mind these things, the present investigator used the following tools to measure blood pressure.

1. Sphygmomanometer and
2. Stethoscope.

Statistical Technique Used

1. Mean
2. Standard Deviation
3. t-ratio

Analysis and Interpretation of Data

The present study aims mainly findings and the discussion of the results have been described. To study the effect of Asana, Pranayama and dhyana in reducing Blood pressure and stress t-test was computed.

Blood pressure

Table-4.1
Mean, SD and t –test values of systolic blood pressure of females of experimental group during Pre Test and Post Test

Group	Test	N	Mean (mm Hg)	SD	df	t-value
Experimental Group	Pre –Test	10	173	22.62	9	2.75 S*
	Post-test	10	144	12.65		

S*=Significant at 0.05 level=2.26

Figure No. 4.1

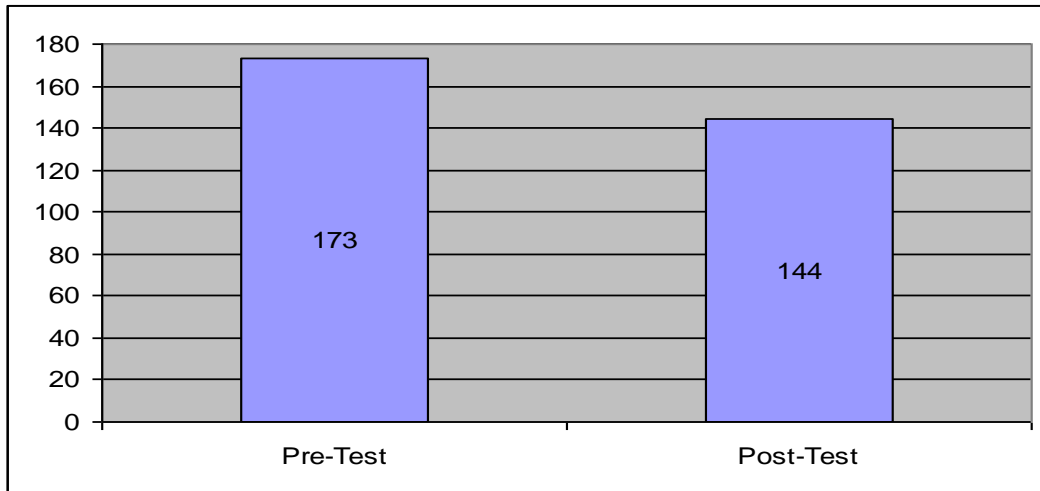


Table No. 4.1 and Fig. No. 4.1 has shown the mean S.D. and t-test values of systolic blood pressure of females of experimental group. Pre-Test mean and S.D. value of this group has been calculated as 173 mm Hg ± 22.62 whereas mean and S.D. value of post test were found to be 144 mm Hg ± 12.65 when t-test was applied it has shown the 2.75 value which is significant at 5% level.

It is clear from the table that this is a significant difference in the pre and post test value i.e. after performing the yogic exercises for

45 days there is remarkable decrease in systolic blood pressure of females (30 to 60 years) pre – test S.D. value systolic blood pressure is quite high whereas post test S.D. values decrease. This also shows that before performing yogic exercises there is a large variation in systolic Blood Pressure of females. But after performing yogic exercises S.D of systolic Blood Pressure has also come down. This shows that variation of systolic blood pressure also decrease after yogic exercises of 45 days.

Table-4.2
Mean, SD and t –test values of systolic blood pressure of females of control group during Pre Test and Post Test

Group	Test	N	Mean (mm Hg)	SD	df	t-value
Control Group	Pre –Test	10	172	17.12	9	0.052 NS
	Post-test	10	168	14.29		

NS = Non-Significant

Figure No. 4.2

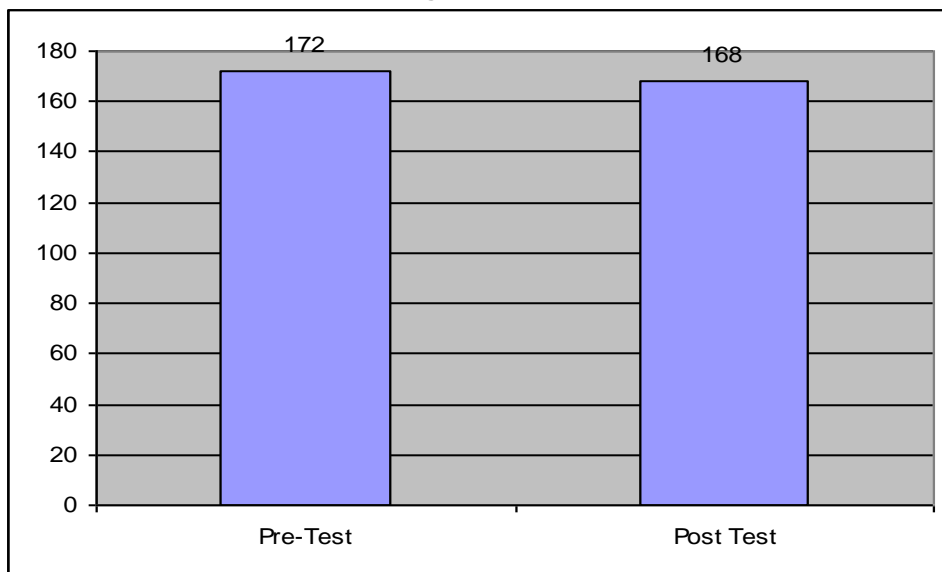


Table No. 4.2 and Fig. No. 4.2 have shown the mean S.D. and t-test values of systolic blood pressure of females of control group. Pre-Test mean and S.D. value of this group has been calculated as 172 mm Hg ± 17.12 whereas mean and S.D. value of post test were found to be 168 mm Hg ± 14.29 when t-test was applied it has shown the 0.052 value which in Non-significant at 5% level.

From the above result it has been observed that in the control group though there is the difference in pre-test and post –test mean values of systolic blood pressure, but this difference is non-significant. Small difference in pre-test and post –test observed may be because the females are of rural background and these females do daily activities of their life by themselves.

Table-4.3
Mean, SD and t–test values of diastolic blood pressure of females of experimental group during Pre Test and Post Test

Group	Test	N	Mean (mm Hg)	SD	df	t-value
Experimental Group	Pre –Test	10	100	6.67	9	2.32 S*
	Post-test	10	86.5	4.15		

S*=Significant at 0.05 level=2.26

Figure No. 4.3

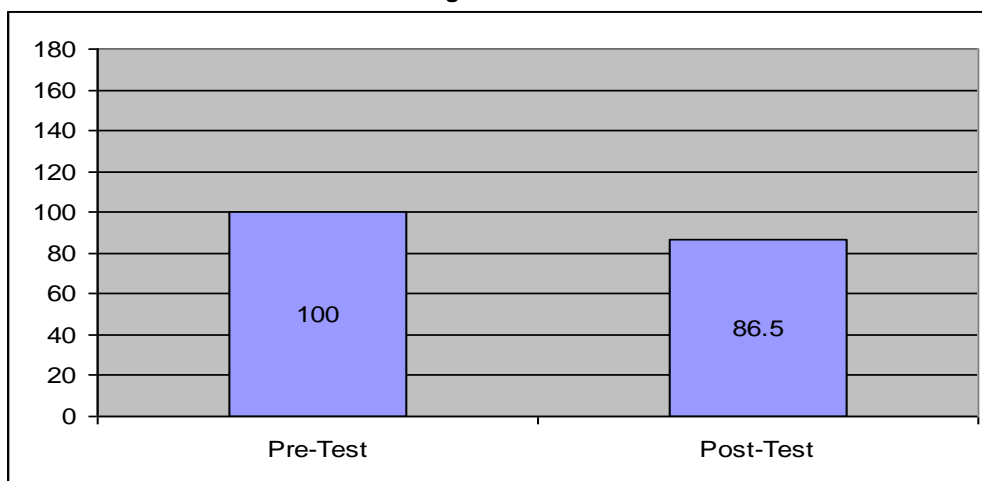


Table No. 4.3 and Fig. No. 4.3 has shown the mean S.D. and t-test values of diastolic blood pressure of females of experimental group. Pre-Test mean and S.D. value of this group has been calculated as 100 mm Hg ± 6.67 whereas mean and S.D. value of post test were found to be 86.5 mm Hg ± 4.15 when t-test was applied it has shown the 2.32 value which in significant at 5% level.

45 days there is remarkable decrease in diastolic blood pressure of females of age 30 to 60 years Post – Test Standard Deviation value of diastolic blood pressure of these females come down 6.67 to 4.15. This also shown that before performing yogic exercises there is a large variation in diastolic Blood Pressure of females. But after performing yogic exercises Standard Deviation of diastolic Blood Pressure has also come down. This indicates that variation of diastolic blood pressure has also decreased after performing yogic exercises for 45 days.

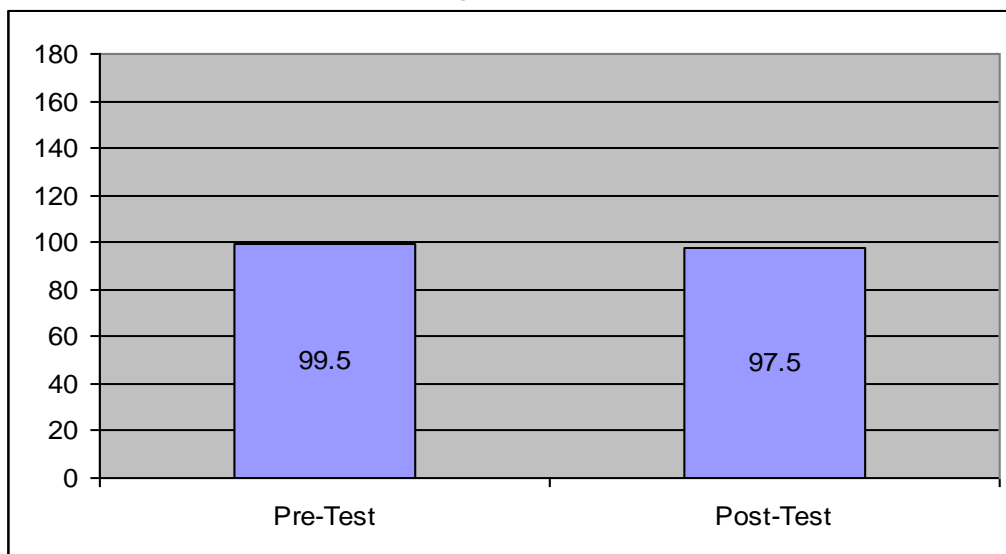
It is clear from the above table that there is a significant difference in the pre and post test value i.e. after performing the yogic exercises for

Table-4.4
Mean SD and t –test values of diastolic blood pressure of females of control group during Pre-Test and Post-Test

Group	Test	N	Mean (mm Hg)	SD	df	t-value
Control Group	Pre –Test	10	99.5	6.95	9	0.083 NS
	Post-test	10	97.5	4.96		

NS=Non-Significant

Figure No. 4.4



Above table and Figure have shown the mean, Standard Deviation and t-test values of diastolic blood pressure of females of control group. Pre-Test mean and S.D. value of this group has been calculated as 99.5 mm Hg ± 6.95 whereas mean and S.D. value of post test were found to be 97.5 mm Hg ± 4.96. T-test has also shown non-significant differences in this group (Table 4.4, Fig. No. 4.4).

From the above result has been observed that in the control group through there is the difference in pre-test and post –test mean value of diastolic blood pressure. But this value difference in non-significant small difference in pre-test and post –test and observed why be because the females are ruler background. These females do daily activities of their life by themselves.

Result of this table demonstrates that there is no observable change in he diastolic blood pressure of control group (which is not performing yogic exercises for 45 days)

Results are in favor of the hypothesis winch stated that there will be significant effect of the yogic exercise on blood pressure. Hence hypothesis is accepted.

Conclusion

The result of the study showed that variation of systolic blood pressure of females decreased of the yogic exercise for 45 days and also the variation of diastolic blood pressure of female decreased of the performing yogic exercise for 45 days. But no observable change occurred in systolic blood pressure as well as diastolic blood pressure among female (control group) having without performing yogic exercise for 45 days. Hence there is significant effect of yogic exercise on blood pressure.

Suggestions for Further Research

In the light of finding of this study the following implication can be drawn. The Importance of yogic exercise has been well recognized by several researchers. The present research has tried to find

out effect of selected yogic exercise on reducing Blood pressure.

The similar study can be conducted on male subjects.

The scope of present study can be extended to the remaining psychological and physiological variable also.

The size and age of sample can be further increased.

The study also can be done on Hypertension, diabetic patients.

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