

Effects of Meditation and Pranayama in Blood Pressure in Women Students

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Abstract

The Electronic Blood pressure machine was used to measure the blood pressure of sample. The subjects selected for the present study were divided into three equal groups called, Experimental group I (Meditation Group), experimental II (Pranayama group) and Control group, consisting of 15 Female students in each group. They were the students of graduate Course and their age ranged from 18 to 25 years during the academic year 2016-17. The entire sample were directed to assemble in a multipurpose hall Padmpani of Physical education to seek their willingness, to act as subjects. The researcher explained to them the purpose, nature, importance of the experiment and the procedure to be employed to collect their information. Further the role of the subjects during the experimentation and the testing procedure were also explained to them in detail. Pranayama and meditation programme was planned for 12 weeks, 5 days a week and 60 minutes a day. The result of the study reveals that there were significant difference were found in post Systolic blood pressure ($F = P < .05$) among Meditation, Pranayama and Control group.

Introduction

The blood pressure is driving force of the blood under circulatory system. The engaging in regular meditation and pranayama practices is particularly apparent in the prevention of several chronic diseases, including: obesity, depression, cardiovascular disease, diabetes, cancer, Blood pressure, and osteoporosis. The several studies shows that young people can benefit from meditation and pranayama practices as it contributes to developing healthy bones, sound cardiovascular efficiency and, lung function as well as improved motor skills and cognitive function. Effective practice of Pranayama and meditation, regularity of time, place, and practice are most important for blood pressure, as they condition the mind to focus its energies. The mind seems to be particularly active. When you try to concentrate, but just as any habit can be established through constant practice, so the mind can be conditioned to focus more quickly once regularity is established. The meditation and pranayama are responsible for creating an atmosphere where the mind can get centered into one's own inner self. Then the mind gets so much at peace that we can reach the stage between sleep and waking. This is the Alfa state. Even when one is hypnotizing a person, he/she uses the Silva mind control method; one actually brings the mind to this state itself, the only difference being that in the other methods some inputs are given to the mind while in meditation, the divine energies are allowed to put the inputs.

Objective

To study the effect of the Meditation and Pranayama on to Systolic and Diastolic blood pressure among women

Hypothesis

1. There would be significant differences of the effect of the Meditation and Pranayama on physiological variables with respect to Systolic blood pressure among women
2. There would be significant differences of the effect of the Meditation and Pranayama on physiological variables with respect to diastolic blood pressure among women

Methods

Forty five girls selected for the study. Training was given to Meditation group, Pranayama Group separately; The subjects selected for the present study were divided into three equal groups called, Experimental group I (Meditation Group), experimental II (Pranayama group) and Control group, consisting of 15 Female students in each group. They were the students of graduate Course and their age ranged from 18 to 25 years during the academic year 2016-17. The entire sample were directed to assemble in a multipurpose hall Padmpani of Physical education to seek their willingness, to act as subjects. The researcher explained to them the purpose, nature, importance of the experiment and the procedure to be employed to collect their information . Further the role of the subjects during the experimentation and the testing procedure were also explained to them in detail.

Electronic Blood pressure machine was used to measure the blood pressure of sample. The yogic Pranayama includes Kapalbhathi, AnulomVilom and Bhastrika. Yogic Pranayama the demonstration was given to the subjects . Pranayama and meditation programme was planned for 12 weeks, 5 days a week and 60 minutes a day. Meditation programme was prepared by the investigator on consultation with experts. It consists of meaning, types, uses and techniques of meditation including **Basic** (Agha, Moolathara and Thuria) and **Nine Centres Meditation** (Moolathara, Swathitana, Maniporaga, Anagatha, Vishukthi, Agha ,Thuria, Thurithedha and Thuvathasangam). They were explained through video presentation which was of 20 minutes in duration in local language . Then it was enacted by the subjects under the supervision of the investigator. Mean, standard deviation, and ANOVA. The Mean Score (S.Ds.) age of Meditation group was 22.89 (5.64) years, mean score (S.Ds.) weight of Meditation group was 56.89 (6.09) Kg., mean score (S.Ds.) height of Meditation group was 153.90 (9.06) cm. In addition, The Mean Score (S.Ds.) age of Pranayama group was 22.44 (5.43) years, mean score (S.Ds.) weight of Pranayama group was 56.88 (6.11) Kg., mean score (S.Ds.) of Pranayama group height was 153.12 (9.32) cm. Furthermore, the Mean Score (S.Ds.) age of Control group was 22.13 (5.04) years, mean score (S.Ds.) weight of Control group was 56.17 (5.89) Kg., mean score (S.Ds.) height of Control group was 153.78 (9.16) cm. The result of the study shows that control group was more younger than meditation and pranayama group, whereas meditation group was more weighted and tallest as compare than pranayama and control group

Results

TABLE 1
PRE-TEST MEAN SCORES AND STANDARD DEVIATION OF SYSTOLIC BLOOD PRESSURE
AMONG MEDITATION GROUP PRANAYAMA GROUP AND CONTROL GROUP

COMPONENTS	GROUP	SAMPLE SIZE	MEAN	S.DS
Systolic blood pressure	Meditation group	15	118.00	5.20
	Pranayama group	15	112.4	3.99
	Control group	15	118.26	8.79

Table 1 shows that the Pre-Test mean scores, standard deviation of Meditation, Pranayama and Control with respect to Systolic blood pressure

TABLE -2
ONE WAY ANALYSIS OF VARIANCE SHOWS THE COMPARISON OF PRE-TEST SYSTOLIC
BLOOD PRESSURE AMONG MEDITATION, PRANAYAMA AND CONTROL GROUP

Sr.No.	Components	Source of Variance	DF	SS	MSS	F-ratio
1.	Systolic blood pressure	Between group	2	4.67	2.33	1.76 NS
		Within group	42	55.67	1.32	

Table-2 shows the statistical comparison of pre-test Systolic blood pressure among Meditation, Pranayama and Control group.

The result of the study reveals that there were no significant difference were found in pre-test Systolic blood pressure (F= 1.76) among Meditation, Pranayama and Control group.

TABLE 3
POST-TEST MEAN SCORES AND STANDARD DEVIATION OF SYSTOLIC BLOOD PRESSURE AMONG MEDITATION GROUP PRANAYAMA GROUP AND CONTROL GROUP

COMPONENTS	GROUP	SAMPLE SIZE	MEANS	S.DS
Systolic blood pressure	Meditation group	15	122.2	5.42
	Pranayama group	15	120.9	2.37
	Control group	15	120.2	7.56

Table 3 shows that the Post-Test mean scores, standard deviation of Meditation, Pranayama and Control with respect to Systolic blood pressure

TABLE – 4
ONE WAY ANALYSIS OF VARIANCE SHOWS THE COMPARISON OF POST-TEST SYSTOLIC BLOOD PRESSURE AMONG MEDITATION GROUP, PRANAYAMA GROUP AND CONTROL GROUP

Sr.No.	Components	Source of Variance	DF	SS	MSS	F-ratio
1.	Systolic blood pressure	Between group	2	8.72	4.36	3.63*
		Within group	42	50.54	1.20	

Table-4 shows the statistical comparison of post-test Systolic blood pressure among Meditation, Pranayama and Control group.

The result of the study reveals that there were significant difference were found in post Systolic blood pressure (F= 3.63,P<.05) among Meditation , Pranayama and Control group .

TABLE – 5
L.S.D. POST HOC STATISTICAL COMPARISON FOR SYSTOLIC BLOOD PRESSURE OF MEDITATION GROUP, PRANAYAMA GROUP AND CONTROL GROUP .

Mean Scores			Mean difference.	C.D. at 5% level
Meditation group	Pranayama group	Control group		
122.2	120.9		1.30	1.78NS
122.2		120.2	2.00	1.78*
	120.9	120.2	0.07	1.78NS

* Significant at .05 level

Table 5 shows that the L.S.D. post hoc statistical comparison for Systolic blood pressure of Meditation,Pranayama andControl group.

TABLE 6
PRE-TEST MEAN SCORES AND STANDARD DEVIATION OF DIASTOLIC BLOOD PRESSURE AMONG MEDITATION GROUP PRANAYAMA GROUP AND CONTROL GROUP

COMPONENTS	GROUP	SAMPLE SIZE	MEAN	S.DS
Diastolic blood pressure	Meditation group	15	73.2	4.49
	Pranayama group	15	70.87	4.25
	Control group	15	73.06	4.49

Table 6 shows that the Pre-Test mean scores, standard deviation of Meditation, Pranayama and Control with respect to Diastolic blood pressure.

TABLE – 7

ONE WAY ANALYSIS OF VARIANCE SHOWS THE COMPARISON OF PRE-TEST DIASTOLIC BLOOD PRESSURE AMONG MEDITATION, PRANAYAMA AND CONTROL GROUP

Sr.No.	Components	Source of Variance	DF	SS	MSS	F-ratio
1.	Diastolic blood pressure	Between group	2	2.34	1.17	1.008 NS
		Within group	42	48.90	1.16	

Table-7 shows the statistical comparison of pre-test Diastolic blood pressure among Meditation , Pranayama and Control group .

The result of the study reveals that there were no significant difference were found in Diastolic blood pressure (F= 1.008) among Meditation , Pranayama and Control group .

TABLE - 8

POST-TEST MEAN SCORES AND STANDARD DEVIATION OF DIASTOLIC BLOOD PRESSURE AMONG MEDITATION GROUP PRANAYAMA GROUP AND CONTROL GROUP

COMPONENTS	GROUP	SAMPLE SIZE	MEANS	S.DS
Diastolic blood pressure	Meditation group	15	72.33	4.65
	Pranayama group	15	78.3	2.20
	Control group	15	73.33	4.57

Table 8 shows that the Post-Test mean scores, standard deviation of Meditation, Pranayama and Control with respect to Diastolic blood pressure

TABLE – 9

ONE WAY ANALYSIS OF VARIANCE SHOWS THE COMPARISON OF POST-TEST DIASTOLIC BLOOD PRESSURE AMONG MEDITATION GROUP, PRANAYAMA GROUP AND CONTROL GROUP

Sr.No.	Components	Source of Variance	DF	SS	MSS	F-ratio
1.	Diastolic blood pressure	Between group	2	2.67	1.33	1.09 NS
		Within group	42	51.56	1.22	

Table-9 shows the statistical comparison of post-test Diastolic blood pressure among Meditation , Pranayama and Control group .

The result of the study reveals that there were no significant difference were found in Post test Diastolic blood pressure (F= 1.09) among Meditation , Pranayama and Control group .

Discussion

It has been hypothesised that, there would be significant differences of the effect of the Meditation and Pranayama on physiological variables with respect to Systolic blood pressure among women, With regards to Pre-Test mean score of Systolic blood pressure of Meditation group was obtained 118, The Pre-Test mean score of Systolic blood pressure of Pranayama group was 112.4 and Pre-Test mean score of Systolic blood pressure of Control group was 118.26 respectively. However the standard deviation of Pre-Test Systolic blood pressure of meditation group was 5.20, Pre-Test Systolic blood pressure of Pranayama group was obtained 3.99 and standard deviation of Pre-Test Systolic blood pressure of control group was obtained 8.79 respectively, The result of the study reveals that there were no significant difference were found in pre-test Systolic blood pressure (F= 1.76) among Meditation , Pranayama and Control group . In addition , the Post-Test mean score of Systolic blood pressure of Meditation group was obtained 122.2, The Post-Test mean score of Systolic blood pressure of Pranayama group was 120.9 and Post-Test mean score of Systolic blood pressure of Control group was 120.2 respectively. However the standard deviation of Post-Test Systolic blood pressure of meditation group was 5.42, Post-Test Systolic blood pressure of Pranayama group was

obtained 2.37 and standard deviation of Post-Test Systolic blood pressure of control group was obtained 7.56 respectively, The result of the study reveals that there were significant difference were found in post Systolic blood pressure ($F= P<.05$) among Meditation , Pranayama and Control group . Statistically significant difference of post-test Systolic blood pressure was found between meditation group and control group, the meditation group was more Systolic blood pressure as compare than control group in normal range whereas , No significant difference of post-test Systolic blood pressure was found between pranayama group and control group. Thus the hypothesis regarding there would be significant differences of the effect of the Meditation and Pranayama on physiological variables with respect to Systolic blood pressure among women was accepted

It had been hypothesised that, there would be significant differences of the effect of the Meditation and Pranayama on physiological variables with respect to Diastolic blood pressure among women, With regards to Pre-Test mean score of Diastolic blood pressure of Meditation group was obtained 73.2 , The Pre-Test mean score of Diastolic blood pressure of Pranayama group was 70.87 and Pre-Test mean score of Systolic blood pressure of Control group was 73.06 respectively. However the standard deviation of Pre-Test Diastolic blood pressure of meditation group was 4.49, Pre-Test Diastolic blood pressure of Pranayama group was obtained 4.25 and standard deviation of Pre-Test Diastolic blood pressure of control group was obtained 4.49 respectively, The result of the study reveals that there were no significant difference were found in Diastolic blood pressure ($F= 1.008$) among Meditation , Pranayama and Control group . In addition , the Post-Test mean score of Diastolic blood pressure of Meditation group was obtained 72.33 The Post-Test mean score of Diastolic blood pressure of Pranayama group was 78.3 and Post-Test mean score of Systolic blood pressure of Control group was 73.33 respectively. However the standard deviation of Post-Test Diastolic blood pressure of meditation group was 4.49, Post-Test Diastolic blood pressure of Pranayama group was obtained 4.25 and standard deviation of Post-Test Diastolic blood pressure of control group was obtained 4.49 respectively, The result of the study reveals that there were no significant difference were found in Post test Diastolic blood pressure ($F= 1.09$) among Meditation , Pranayama and Control group .Thus, the hypothesis regarding there would be significant differences of the effect of the Meditation and Pranayama on physiological variables with respect to Diastolic blood pressure among women was rejected.

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