

The impact of fast walking and yoga activities on flexibility and blood pressure

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Abstract

The current study sought to determine the impact of fast walking and yoga practise on flexibility and blood pressure. Forty-five ladies between the ages of 35 and 40 residing in and around Kannur, Kerala State, were chosen for this purpose. They were separated into three equal groups (n = 15), with each group consisting of fifteen individuals, with group – I undergoing brisk walking, group – II undergoing yoga practise, and group – III serving as a control group that did not get any additional training. This study's training duration was five days per week for twelve weeks. Flexibility, systolic blood pressure, and diastolic blood pressure were all measured before and after the training time. The sit and reach test was used to assess flexibility, and the sphygmomanometer was used to check blood pressure. The analysis of covariance (ANCOVA) was performed to determine whether or not there was a significant difference in chosen criteria variables between the experimental and control groups. Because there were three groups in the current investigation, the Scheff S test was utilised as a pos-hoc test. The study's findings indicated that brisk walking and yoga practise improved criteria factors such as flexibility and blood pressure when compared to the control group. However, no statistically significant difference was detected between the training groups.

Keywords: *brisk walking, yoga practice, flexibility, systolic blood pressure, diastolic blood pressure*

Introduction

All philosophers, spiritualists or materialists, have acknowledged this fact of pure Consciousness as the fundamental axiom of existence from which intellect, volition, love, and thinking flow [1]. It is a science that impacts not only the conscious mind but also the subconscious mind. It is a realistic physiological exercise that may elevate man to a "super mundane level"[2]. Yoga was initially presented by Patanjali and its principles were written down in India some thousand years ago [3]. "Yoga is not an old tale buried in oblivion," says Swami Vishnu Devananda [4]. It is the most precious present-day inheritance. It is a critical requirement for today's culture as well as the culture of future." Yogsanas are extremely valuable in the development of the physical, mental, and spiritual personalities. Pure physical workouts, on the other hand, have an effect exclusively on the muscles and bones. Aerobic refers to the utilisation of oxygen in the body's metabolic or energy-generating processes [5]. Walking is beneficial to the muscles because it causes all of the muscles in our bodies to contract [10]. Walking programmes, which are characterised by moderate degrees of intensity, have been proven to be the most effective interventions when used to promote physical activity and adherence to exercise [11]. Walking at a moderate to high level on a regular basis has been proven to enhance both cardiovascular and psychological health [12].

Method

This study under investigation involves the experimentation of brisk walking and yoga practice on flexibility, systolic blood pressure and diastolic blood pressure. Only women those who were residing in around Kannur town, Kerala State and aged between 35 and 40 years were selected. The selected forty-five subjects were randomly divided into three groups of fifteen each, out of which group - I (n = 15) underwent brisk walking, group - II (n = 15) underwent yoga practice and group - III (n = 15) remained as control. The training programme was carried out for five days per week during morning session only (6 am to 8 am) for twelve weeks. Flexibility was measured by administering sit and reach test, systolic blood pressure and diastolic blood pressure was assessed by using sphygmomanometer. Before applying the experiment all the subjects of the brisk walking, yoga practice and control groups were attended the pre-test, which was conducted a day prior to the commencement of the training and the data were collected on flexibility, systolic blood pressure and diastolic blood pressure. After twelve weeks of training the post-test was conducted one day after the training period to find out any changes in the criterion variables. The analysis of covariance (ANCOVA) was used to find out the significant difference if any, among the experimental groups and control group on selected criterion variables separately. In all the cases, .05 level of confidence was fixed to test the significance, which was considered as an

appropriate. Since there was three groups were involved in this study, the Scheffé S test was used as pos-hoc test and it was shown in Table - II.

Analysis of Data

The data collected prior to and after the experimental periods on flexibility, systolic and diastolic blood pressure on brisk walking group, yoga practice group and control group were analysed and presented in the following table - I.

Table I: Analysis of Covariance and „F“ ratio for Flexibility, Systolic Blood Pressure and Diastolic Blood Pressure for Brisk walking Group, Yoga Practice Group and Control Groups.

Variable Name	Group Name	Brisk Walking Group	Yoga Practice Group	Control Group	*F' Ratio
Flexibility (in inches)	Pre-test Mean $\pm$ S.D	5.87 $\pm$ 0.31	5.41 $\pm$ 0.13	5.59 $\pm$ 0.28	0.997
	Post-test Mean $\pm$ S.D.	6.99 $\pm$ 0.17	7.32 $\pm$ 0.218	5.27 $\pm$ 0.212	14.99*
	Adj. Post-test Mean	6.839	7.587	5.414	86.33*
Systolic blood pressure (in mmHg)	Pre-test Mean $\pm$ S.D	135.01 $\pm$ 2.27	137.81 $\pm$ 2.86	135.59 $\pm$ 1.97	0.97
	Post-test Mean $\pm$ S.D.	132.67 $\pm$ 3.18	129.34 $\pm$ 2.41	136.16 $\pm$ 2.26	18.39*
	Adj. Post-test Mean	131.934	130.378	135.882	55.39*
Diastolic blood pressure (in mmHg)	Pre-test Mean $\pm$ S.D	86.59 $\pm$ 2.44	87.86 $\pm$ 3.72	86.39 $\pm$ 2.55	0.89
	Post-test Mean $\pm$ S.D.	84.73 $\pm$ 3.45	83.31 $\pm$ 2.86	87.19 $\pm$ 1.59	35.88*
	Adj. Post-test Mean	84.131	83.215	86.837	69.53*

* Significant at .05 level of confidence. (The table value required for significance at .05 level of confidence with df 2 and 43 and 2 and 42 were 3.21 and 3.22 respectively).

Table – I shows that pre test means „f ratio of brisk walking group, yoga practice group and control group on flexibility were 0.997, which were insignificant at 0.05 level of confidence. The post and adjusted post test means „f“ ratio value of experimental groups and control group was 14.99 and 86.33, which was significant at 0.05 level of confidence. The pre test means „f ratio of brisk walking group, yoga practice group and control group on systolic blood pressure were 0.97, which were insignificant at 0.05 level of confidence. The post and adjusted post-test mean “f” ratio value of experimental group and control group was 18.39 and 55.39, which was significant at 0.05 level of confidence. The pre test means „f” ratio of brisk walking group, yoga practice group and control group on diastolic blood pressure were 0.89 which was insignificant at 0.05 level of confidence. The post and adjusted post test mean „f” ratio value of experimental groups and control group was 35.88 and 69.53, which was significant at 0.05 level of confidence. Further which of the paired Further to determine which of the paired means has a significant difference among the group, the Scheffé S test was applied.

Table II: Scheffé S Test for the Difference Between the Adjusted Post-Test Mean of Flexibility, Systolic Blood Pressure and Diastolic Blood Pressure.

Adjusted Post-test Mean Difference on Flexibility (in inches)				
Brisk Walking Group	Yoga Practice Group	Control Group	Mean Difference	CI
6.839		5.414	1.425*	0.513
6.839	7.587		0.748*	0.513
	7.587	5.414	2.173*	0.513
Adjusted Post-test Mean Difference on Systolic Blood Pressure (in mmHg)				
131.934		135.882	3.948*	1.16
131.934	130.378		1.556*	1.16
	130.378	135.882	5.504*	1.16
Adjusted Post-test Mean Difference on Diastolic Blood Pressure (in mmHg)				
84.131		86.837	2.706*	0.355
84.131	83.215		0.916*	0.355
	83.215	86.837	3.622*	0.355

* Significant at 0.05 level of confidence.

Results

Table – II shows that the Scheffé S Test for the difference between adjusted post-test mean on flexibility of brisk walking group and control group (1.425) and yoga practice group and control group (2.173), which were

significant at .05 level of confidence. There was a significant difference on systolic blood pressure between brisk walking group and control group (3.948), brisk walking group and yoga practice group (1.556) and yoga practice group and control group (5.504). There was also a significant difference found on diastolic blood pressure between brisk walking group and control group (2.706), brisk walking group and yoga practice group (0.916), and yoga practice group and control group (3.622) which was significant at 0.05 level of confidence after the respective training programme. Moreover the result of the study shows that there was no significant difference between the training groups on selected criterion variables.

Conclusions

Flexibility was improved due to the yoga practice periods. [8, 13] . Flexibility was also improved after the brisk walking. [16] . Systolic and diastolic blood pressure decreased for brisk walking group [7, 9, 18] . and yoga practice group [6, 14, 15] has also decreased for both the experimental groups, such as yoga practice group and brisk walking group, when compared with the control group. Murphy et al (2007) [17] found that brisk walk helps to improve the VO₂max and an decrease in body weight, BMI, % of body fat and resting diastolic blood pressure. The overall study indicates that the brisk walking and yoga practices are better tools to improve the physical fitness as well as physiological variables.

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