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EFFECT OF SIX WEEK PRANAYAMA PRACTICES ON CARDIO-RESPIRATORY ENDURANCE OF LONG DISTANCE RUNNERS

DR. SUBHASH P. GAWANDE DIRECTOR OF PHYSICAL EDUCATION, SHRI SHIVAJI ARTS AND COMMERCE COLLEGE, AMRAVATI, MAHARASHTRA.

ABSTRACT:

The purpose of the study was to see the effect of six week pranayama practices on cardio-respiratory endurance of long distance runners. For this researcher has selected Twenty (20) long distance runners were selected from Shri Shivaji Arts and Commerce College, Amravati, Maharashtra who has at least participated in State Level or Inter Collegiate Level Tournaments. Subjects were selected with purposive random sampling method. The age of the long distance runners were ranged between 20 to 25 years. Dependent variable: Twelve minutes (12) Run & Walk test for endurance. The score was recorded in distance covered in meters. Independent variable: Kapalbhati and Anulom-Vilom, breathing exercise were selected as independent variables. Every early morning before practice both the pranayam were practiced five days per week, earlier it was practiced for 10 minutes and after three weeks it was increased to 20 minutes. Statistical analysis was done on the basis of mean, Standard deviation & 't' test to compare the effects the pranayama practices on cardio-respiratory endurance of long distance runners. Result of the study shows that the Mean and SD of control group of pre-test is 2323±141.8 and post-test is 2709±153.6 by seeing the mean of pre and post-test we can observe that there is difference, to see this differences is significant or not, researcher further calculate 't' test. The calculated 't' value 8.257 is greater than the tabulated 't' value i.e. 2.024 which shows that the differences is significant. Hence, it can be said that there is significant difference between pre and post test of cardio-respiratory endurance (12 minutes run & walk test) of long distance runners. Concluding the study it revealed that the mean of pre-test and post-test of cardio-respiratory endurance (12 minutes run & walk test) of long distance runners shows difference, to see this differences is significant or not researcher further calculate 't' test. Which shows that the difference is found to be significant it may be attributed that pranayama practices has significant effect on cardio respiratory endurance of long distance runners.

KEYWORDS:

KAPALBHATI, ANULOM-VILOM, CARDIO RESPIRATORY ENDURANCE, LONG DISTANCE RUNNERS.

INTRODUCTION:

Yoga is generally believed that it is a group of physical, mental, and spiritual practices or disciplines which originated in ancient India. Yoga is a way of right living and it works when integrated in our daily life. It works on all aspects of the person: physical, mental, emotional, spiritual as well as social life. The word yoga means 'unity' or 'integration' and is derived from the Sanskrit word 'yuj' which means 'to join'.

The word 'Yoga' is derived from the *Sanskrit* root verb *'Yuj'* meaning – to find, to join, to unite, to control, etc. It is allied to English word 'Yoke' the German 'Joch' and the Latin 'Jungo' means (to join). In simple word we can say that Yoga is 'Union' and 'Control'. It signify the Union of man with God or an individual with the Universal realism. It means combination of mortal with eternal that is indeed. But yoga also means control of oneself, that is to say, appropriate self-discipline. It is the mobilization of the inner resources of personality with a view to attain that self-integration which leads to self-realization. In other word we can say, Yoga is the coordination, the programme of the psycho-physical, moral and spiritual training through one can fulfill the ultimate destiny of life.

With regard to the cardio-respiratory system, the yoga and pranayama practices led to better cardiac parameters in terms of orthostatic tolerance, heart rate, and blood pressure compared to exercise. Practices of Sethu Bandha Sarvangasana, Viparita Dandasana and Supta Virasana which have backward-bending ob body are good relievers of angina in Ischemic heart disease. Yoga practices do not consume much energy and many of them accompany isometric contractions. The ability to move smoothly depends on flexibility of an individual, an attribute that enhances both the safety and the optimal physical activity. The daily practice of yoga can enhance health and overall fitness, regulate all the body functions in a balanced manner and help to maintain the sustainable health. Through yoga practiced individual can reduce the common barriers to physical activity such as time conflicts, poor weather, etc.

Cardio-respiratory endurance can be defined as the ability of the individual to perform prolonged, large-muscle, dynamic exercise at moderate-to-high levels of intensity, it is a key to health-related component of fitness. As a healthy cardio-respiratory system is essential to every individual for high levels of fitness and wellness. A fundamental understanding of the body processes

involved in cardio-respiratory endurance exercise can help you design a safe and effective fitness program.

The cardio-respiratory system consists of heart, blood vessels, and respiratory system. The cardio-respiratory system transports oxygen, nutrients, and other key nutrients to the organs and tissues that need them; it also carries desecrate products to where they can be used or expelled. The heart is combination of four chambered, fist-sized muscle located just beneath the sternum. It pumps oxygen-deoxygenated blood to the lungs and oxygenated blood to the rest of the body. Blood actually flows through two separate circulatory systems: The right side of the heart from where the blood pumps to the lungs in is called as pulmonary circulation and the left side where the blood pumps through the rest of the body in systemic circulation.

Cardio-respiratory endurance helps to improve movement efficiency. Superior cardio-respiratory endurance means that your body can work at higher intensities for longer time without fatigue. This means that the performance of athletic will improve as a result of their high levels of cardio-respiratory endurance. In order to have better cardio-respiratory endurance you must have an efficient cardio-respiratory system delivering oxygen to the working muscles or to the body. Furthermore, we can say that the lack of fatigue also means that the athlete's technique will be maintained and allow for greater consistency in the execution of their skills.

METHODOLOGY

SUBJECTS

Twenty (20) long distance runners were selected from Shri Shivaji Arts and Commerce College, Amravati, Maharashtra who has at least participated in State Level or Inter Collegiate Level Tournaments. Subjects were selected with purposive random sampling method. The age of the long distance runners were ranged between 20 to 25 years.

- *Dependent variable*: Twelve minutes (12) Run & Walk test for endurance. The score was recorded in distance covered in meters.
- *Independent variable*: Kapalbhati and Anulom-Vilom, breathing exercise were selected as independent variables.

Every early morning before practice both the pranayam were practiced five days per week, earlier it was practiced for 10 minutes and after three weeks it was increased to 20 minutes.

STATISTICAL ANALYSIS

Statistical analysis was done on the basis of mean, Standard deviation & 't' test to compare the effects the pranayama practices on cardio-respiratory endurance of long distance runners.

TABLE

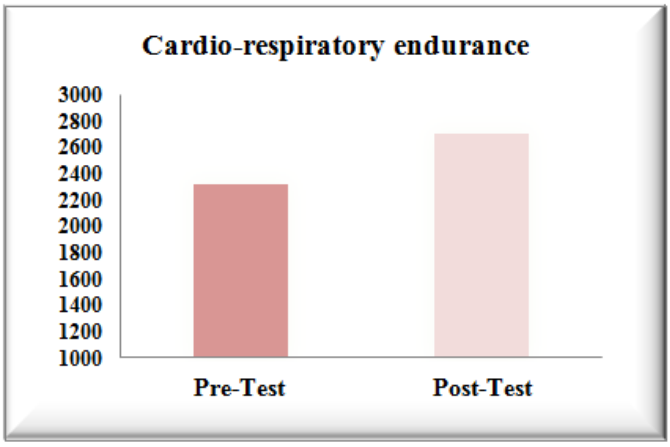
COMPARISON OF CARDIO-RESPIRATORY ENDURANCE BETWEEN PRE-TEST AND POST-TEST OF LONG DISTANCE RUNNERS

Variable	Test	Sum	Mean	S.D.	M.D.	S.E.	t – test
Cardio-respiratory endurance	Pre-Test	46460	2323	141.8	386	46.744	8.257*
	Post-Test	54180	2709	153.6			

*Significant at 0.05 level tabulated 't' = 2.024

Above table shows that the Mean and SD of control group of pre-test is 2323±141.8 and post-test is 2709±153.6 by seeing the mean of pre and post-test we can observe that there is difference, to see this differences is significant or not, researcher further calculate 't' test. The calculated 't' value 8.257 is greater than the tabulated 't' value i.e. 2.024 which shows that the differences is significant. Hence, it can be said that there is significant difference between pre and post test of cardio-respiratory endurance (12 minutes run & walk test) of long distance runners.

GRAPH



COMPARISON OF MEAN OF PRE & POST TEST OF CARDIO-RESPIRATORY ENDURANCE

CONCLUSION

From the above study it revealed that the mean of pre-test and post-test of cardio-respiratory endurance (12 minutes run & walk test) of long distance runners shows difference, to see this differences is significant or not researcher further calculate 't' test. Which shows that the difference is found to be significant it may be attributed that pranayama practices has significant effect on cardio respiratory endurance of long distance runners.

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