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Effect of Land Aerobic and Water Aerobic Dancing on Flexibility of Overweighed School Boys

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Abstract

The purpose of this study was to find out the effect of land aerobic and water aerobic dancing on flexibility of overweighed school boys. To achieve this purpose of this study, thirty overweighed school boys were selected as subjects at random from Mar Maril ICSE School, Kottayam, Kerala, and their age was 13 to 15 years. The selected subjects were divided in to three equal groups namely, one control group and two experimental groups. Each group consists of ten students. The group- 1 served as control group who did not undergo any specific training, the group- 2 underwent land aerobic dancing and the group-3 underwent water aerobic dancing. The two experimental groups were performed the designed training programmes for the period of eight weeks, in five days a week. The study find out that the flexibility highly improved to water aerobic dancing group than the land aerobic dancing group.

Keywords: Land aerobic, Water aerobic, Flexibility, Sit and reach.

Introduction

Aerobic dance provides benefits to the cardio respiratory system, particularly to its engine, the heart. Aerobic means work in presence of oxygen. The systems involved in oxygen transport for us to make any activity such as the respiratory and circulatory systems with aerobic activity, our heart gets stronger and increase the size. This reduces the number of beats per minute and our heart became strong enough to supply the entire body with precious oxygen with a few beats. In addition, the heart vessels increase their ability to carry blood and oxygen to small blood vessels and this improves the entire network of blood circulation inside the whole body. People who exercise on a regular basis and make aerobic dance exercise a part of their routine exercise programme that tend to have more success with its long duration. Water exercise is rapidly growing in this modern world. An advantage of aquatic exercise is that it can involve the upper and lower extremities through optimal ranges of motion while minimizing joint stress. The repetitional strain imposed on the tissues by ground striking can lead to injury. The buoyant force of water results in up to a 90% reduction in body weight in the water.

Methodology

The purpose of this study was to find out the effect of land aerobic and water aerobic dancing on flexibility among overweighed school boys. To achieve this purpose of this study, thirty overweighed school boys were selected as subjects at random from Mar Maril ICSE School, Kottayam, Kerala, and their age was 13 to 15 years. The study was formulated as pre and post test random group design in which thirty overweighed school students were selected. The selected subjects were divided in to three equal groups namely, one control group and two experimental groups. Each group consists of ten students. The group- 1 served as control group who did not undergo any specific training, the group- 2 underwent land aerobic dancing and the group-3 underwent water aerobic dancing. The two experimental groups were performed the designed training programme for the period of eight weeks, in five days a week.

Criterion measures

The variable was tested and measured by sit and reach test (in centimetres).

Statistical application

Analysis of co-variance (ANCOVA) was used to find out significant adjusted post-test mean difference of three groups with respect to each parameters and Scheffe's post hoc test was used to find out pair-wise comparisons between groups with respect to the parameter. To test the hypothesis the level of significant was fixed at 0.05 levels.

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Table 1
Analysis of covariance of experimental groups and control group on flexibility (Scores in Centimeters)

Test	Group- I	Group-II	Group-III	Source Of Variance	Sum Of Square	Degree Of Freedom	Mean Squares	Obtained 'F' Ratio
PRE TEST								
MEAN	**21.30**	**22.20**	**24.00**	**BETWEEN**	**37.80**	**2**	**18.90**	**2.09**
STANDARD DEVIATION	**2.45**	**3.16**	**2.90**	**WITH IN**	**243.70**	**27**	**9.03**	
POST TEST								
MEAN	**21.20**	**25.00**	**31.60**	**BETWEEN**	**553.87**	**2**	**276.93**	**30.15***
STANDARD DEVIATION	**2.64**	**2.61**	**3.32**	**WITH IN**	**248.00**	**27**	**9.19**	
ADJESTED POST TEST								
MEAN	**22.35**	**25.29**	**30.16**	**BETWEEN**	**269.05**	**2**	**134.53**	**155.14***
				WITH IN	**22.55**	**26**	**0.87**	

(The table value required for significance at 0.05 level of confidence for 2 and26 are 3.35and 3.37 respectively)

Pre-Test: The mean and standard deviation of the pre-test on flexibility scores of G1, G2 and G3 are 21.30 ± 2.45, 22.20 ± 3.16, and 24 ± 2.90 respectively. The obtained pre test 'F' value of 2.09 was less than the required table **F** value of 3.37. Hence the pre test means value of flexibly shows insignificant at 0.05 level of confidence for the degree of freedom 2 and 27. Post-Test: The mean and standard deviation of the post-test on flexibility scores of G1, G2 and G3 are 21.20 ± 2.64, 25 ± 2.61, and 31.60 ± 3.32 respectively. The obtained post test F value of 30.15 was greater than the required table F value of 3.37. Hence the post- test means value of flexibly shows significant at 0.05 level of confidence for the degree of freedom 2 and 27. Thus the result obtained proved that the interventions namely Land aerobic dancing and Water aerobic dancing on flexibility produced significantly different improvements among the experimental groups. Adjusted post-test: The mean value of the adjusted post-test on flexibility scores of G1, G2 andG3 are 22.35, 25.29, and 30.16 respectively. The obtained adjusted post-test F value of 155.14 was greater than the required table **F** value of 3.37. Hence the adjusted post-test means value of 155.14 shows significant at 0.05 level of confidence for the degree of freedom 2 and 26. Thus the result obtained proved that the interventions namely Land aerobic and Water aerobic dancing on flexibility produced significantly different improvements among the experimental groups. In order to find out which training programme is to be used in the present study for the significance of adjusted means was tested by Scheffe's post hoc test. The result of the same are presented in the table -2.

Table 2
Scheffe's post hoc values of paired mean differences on flexibility (Scores in centimeters)

GROUP-I	GROUP-II	GROUP-III	MD	CON
22.35	**25.29**		**2.93***	**0.24**
22.35		**30.16**	**7.80***	**0.24**
	25.29	**30.16**	**4.87***	**0.24**

Comparison 1

The comparison between the group 1 and group 2 obtained mean difference value2.93 was greater than the confidential interval value of 0.24.Hence this comparison was significant.

Comparison 2

The comparison between the group 1 and group 3 obtained mean difference value7.80 was greater than the confidential interval value of 0.24.Hence this comparison was significant.

Comparison 3

The comparison between the group 2 and group 3 obtained mean difference value 4.87 was greater than the confidential interval value of 0.24.Hence this comparison was significant.

Discussion on Findings on Flexibility

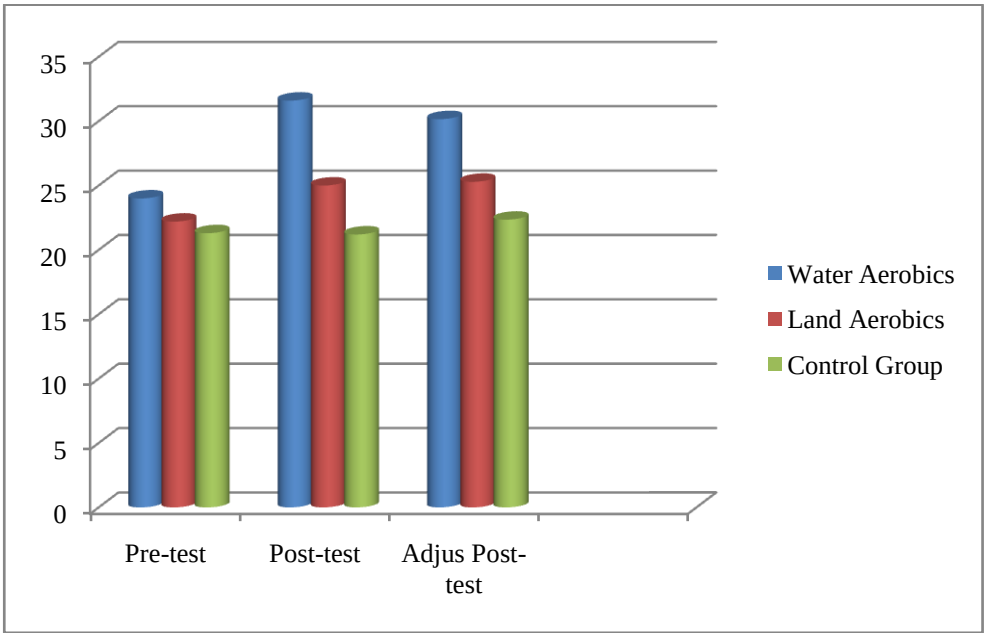
After analysing the results, the researcher has founded that there was significant differences among the experimental and control groups. There was a significant improvement on the experimental groups. The selected training programme has significantly improved the flexibility from the base line to post training. The water aerobic group pre (24 ± 2.90) to post (31.60 ± 3.32) and land aerobic group from pre (22.20 ± 3.16) to post (25± 2.61) have significantly improved in pre to post in the two experimental groups with no change in control group. The present study demonstrates an increase in flexibility of 0.08% and 0.03% for water aerobic group and land aerobic group respectively. However, the water aerobic group produced greater improvement than the land aerobic group. The result of this study indicates that flexibility increased significantly over the 8 weeks training periods for water aerobic group and land aerobic group. Hence, the difference among the two experimental groups was significant. The water aerobic group produces higher improvement than the land aerobic group. The land aerobic group shows less improvement on flexibility. The control group did not produce any significant improvement on flexibility.

Conclusion

Since the obtained mean difference between experimental groups and control group were greater than the confidential interval value on flexibility, it was concluded that Land aerobic dancing group and Water aerobic dancing group improved the flexibility than the control group. Further it was concluded that Water aerobic dancing group improved flexibility better than the Land aerobic dancing group.

Figure I

Comparative Bar Chart of Pre-test Post-test and Adjusted Post-test of Different Groups on Flexibility (Scores in Centimeters)



Conclusion

Since the obtained mean difference between experimental groups and control group were greater than the confidential interval value on flexibility, it was concluded that Land aerobic dancing group and Water aerobic dancing group improved the flexibility than the control group. Further it was concluded that Water aerobic dancing group improved flexibility better than the Land aerobic dancing group.

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