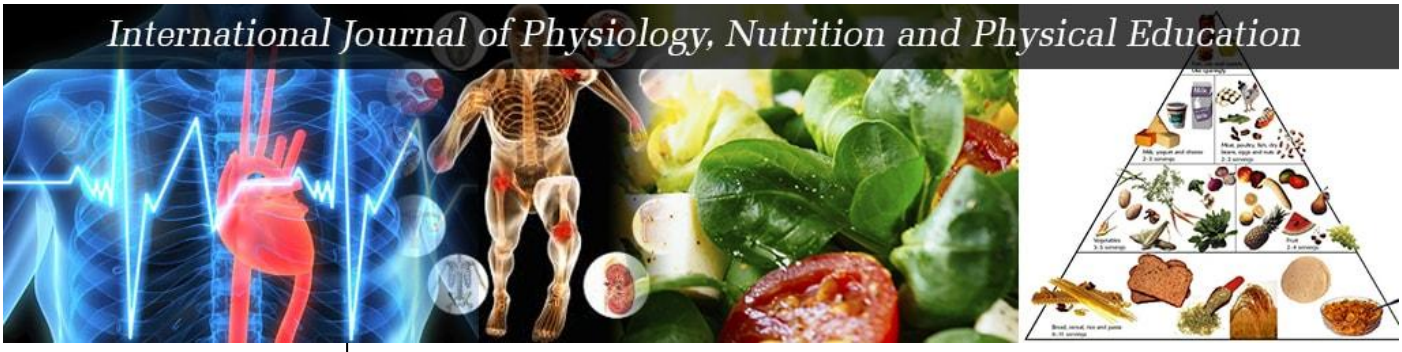

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Effect of aqua aerobic on selected motor fitness components of swimmers

Prashant Sudhakarrao Charjan

Abstract
The purpose of the present study was to find out the effect of Aqua Aerobic on Selected Motor Fitness Components of Swimmers. The investigator thirty swimmers (boys) from swimming pool, Tq. Warud were selected randomly as subjects for the current study. The age of selected subjects was ranging between 15 to 18 years. The researcher was select thirty boys swimmers (N=30), and on the basis of pre-test performance (raw so urce) of the subjects they was divided into two homogenous groups. Aqua aerobic training was administrated given to experimental group and no specific training was given to the control group at random. Period was of seven months. After completion of the training programmer would be again administrated both the groups for Post-test. The subjects underwent seven months training (daily - 5 to 6 PM. Monday to Saturday). The aqua aerobics training programme was used in the present investigation for the experimental group. The following statistical procedure was followed to find out the effects of Aqua Aerobic training on motor fitness components. The investigator used descriptive statistics and paired sample t-test. The level of confidence was fixed at.05 level for all the cases. The data were compiled and analyzed using the Statistical Package for the Social Science (SPSS) for windows computer software (Version 16.0). In this research it is observed that there had been significance difference between the before and after test experimental group in speed, muscular endurance and power. The result of this study may be helpful in preparing some conditioning / training programme for young athlete for the development of selected motor fitness variables.

Keywords: Aqua aerobic, motor fitness, swimmers

Introduction
Water aerobics mostly done vertically and without swimming typically in waist deep or deeper water, it is a type of resistance training. Water aerobics is a form of aerobic exercise that requires water-immersed participants. Aqua aerobic focus on muscular endurance, muscular strength, flexibility and cardio endurance with resistance training and creating an enjoyable atmosphere with music. The main advantage of exercising in water is that it offers resistance in all directions, compared to land exercises where we work only against gravity. Because of the cushioning effect that water provides, this form of exercise is particularly beneficial to anyone at risk from bodily stress, including the elderly, overweight, or those recovering from soft tissue injury. Water is an excellent base for exercise, providing an anti-stress environment. For initial therapy, gentle water exercises use the water's resistance to build muscle strength and flexibility. Water exercise can be performed more easily by people who find lifting weights, or even weight bearing exercise, difficult or painful on dry land. Water also provides buoyancy and support for the body.

Methodology
The investigator thirty swimmers (boys) from swimming pool, Tq. Warud were selected randomly as subjects for the current study. The age of selected subjects was ranging between 15 to 18 years. The researcher was select thirty boys swimmers (N=30), and on the basis of pre-test performance (raw source) of the subjects they was divided into two homogenous groups. Aqua aerobic training was administrated given to experimental group and no specific training was given to the control group at random. Period was of seven months. After completion of the training programmer would be again administrated both the groups for Post-test.

Training Programme

The subjects underwent seven months training (daily - 5 to 6 PM. Monday to Saturday). The Aqua aerobics training programme was used in the present investigation for the experimental group.

Statistical Analysis

The following statistical procedure was followed to find out the effects of Aqua Aerobic training on motor fitness components. The investigator used descriptive statistics and paired sample t-test. The level of confidence was fixed at.05 level for all the cases. The data were compiled and analyzed using the Statistical Package for the Social Science (SPSS) for windows computer software (Version 16.0).

Table 1: Descriptive Statistics of Speed between Experimental Group and Control Group

Group	Test	Number	Mean	SD
Experimental	Pre	15	6.98	0.65
	Post	15	6.88	0.63
Control	Pre	15	6.69	0.52
	Post	15	6.70	0.54

Table – 1: reveals that the mean value of Experimental Group in speed is 6.88 $\pm$ 0.63 and the mean value of Control Group is 6.70 $\pm$ 0.54. It is also observed from the table that the experimental group mean is lower than the control group.

Table 2: The summary of mean and paired sample 't' test For the pre and post tests on speed of experimental group and control group

Group	Test	Mean	Variance	Observations	df	't'-ratio	T (tab)
Experimental	Pre	6.980	0.425	15	14	4.224*	2.145
	Post	6.882	0.396	15			
Control	Pre	6.693	0.266	15	14	0.138@	2.145
	Post	6.695	0.290	15			

*Significant at .05 level. @Not Significant at .05 level.

Table- 2 reveals that the 't' ratio values 4.224 of speed for experimental group respectively are found to be significant at 0.05 level of significance. The table also shows that there is no significant improvement in case of control group as the calculated 't' ratio value 0.138 is not found to be significant at 0.05 level of significance.

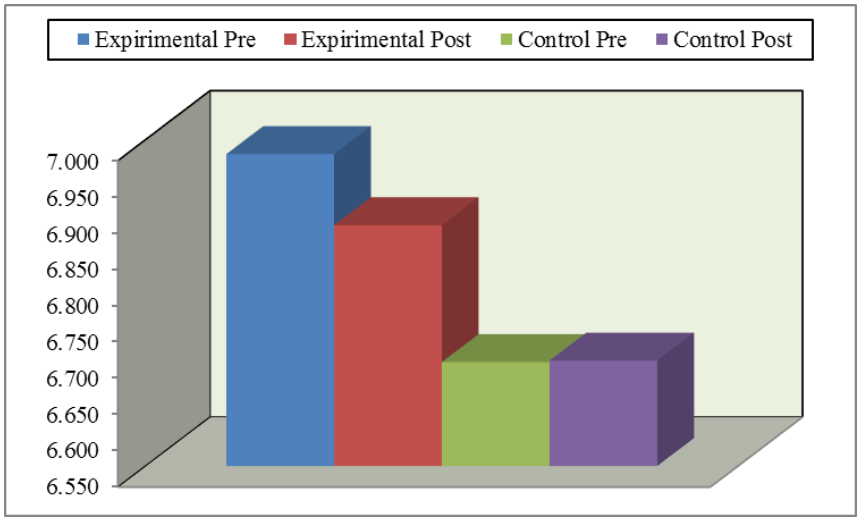

Fig 1: the graph showing the mean value of speed between before and after test of experimental and control groups

Table 3: Descriptive Statistics of Muscular endurance between Experimental Group and Control Group

Group	Test	Number	Mean	SD
Experimental	Pre	15	35.60	8.93
	Post	15	37.67	8.69
Control	Pre	15	41.47	9.91
	Post	15	42.07	10.12

Table – 3: reveals that the mean value of Experimental Group in muscular endurance is 37.67 $\pm$ 8.69 and the mean value of Control Group is 42.07 $\pm$ 10.12. It is also observed from the table that the experimental group mean is lower than the control group.

Table 4: The summary of mean and paired sample 't' test For the pre and post tests on muscular endurance of experimental group and control group

Group	Test	Mean	Variance	Observations	df	't'-ratio	T (tab)
Experimental	Pre	35.600	79.829	15	14	7.750*	2.145
	Post	37.667	75.524	15			
Control	Pre	41.467	98.267	15	14	2.073@	2.145
	Post	42.067	102.352	15			

*Significant at .05 level. @Not Significant at .05 level.

Table- 4 reveals that the 't' ratio values 7.750 of muscular endurance for experimental group respectively are found to be significant at 0.05 level of significance. The table also shows that there is no significant improvement in case of control group as the calculated 't' ratio value 2.073 is not found to be significant at 0.05 level of significance.

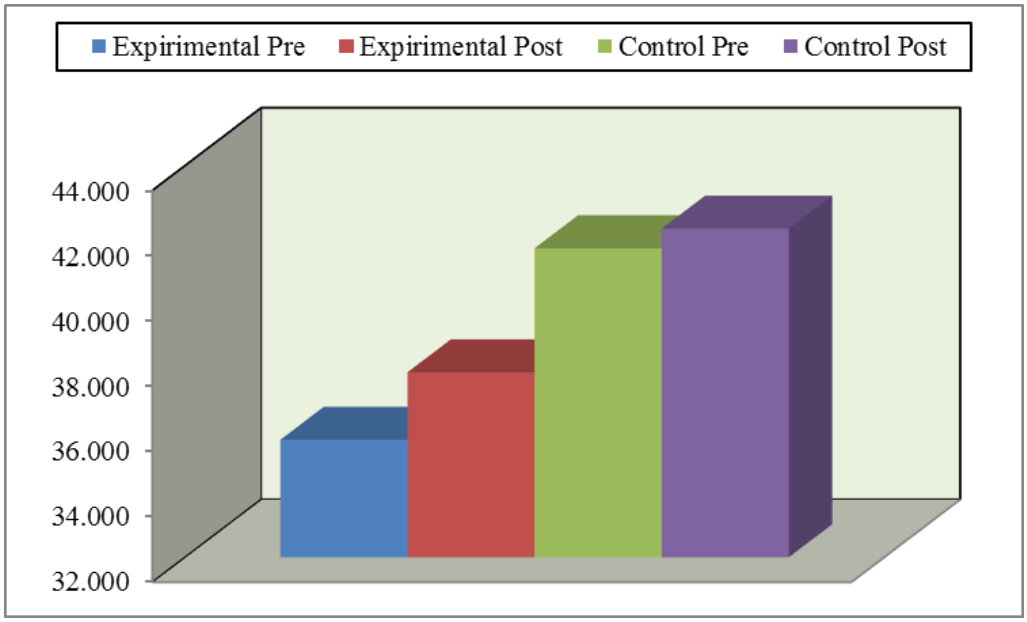

Fig 2: the graph showing the mean value of muscular endurance between before and after test of experimental and control groups

Table 5: Descriptive Statistics of Power between Experimental Group and Control Group

Group	Test	Number	Mean	SD
Experimental	Pre	15	2.09	0.28
	Post	15	2.13	0.28
Control	Pre	15	1.80	0.14
	Post	15	1.80	0.13

Table – 4: reveals that the mean value of Experimental Group in power is 2.13 $\pm$ 0.28 and the mean value of Control Group is 1.80 $\pm$ 0.13. It is also observed from the table that the experimental group mean is higher than the control group.

Table 6: The summary of mean and paired sample 't' test For the pre and post tests on power of experimental group and control group

Group	Test	Mean	Variance	Observations	df	't'-ratio	T (tab)
Experimental	Pre	2.088	0.078	15	14	11.046*	2.145
	Post	2.127	0.079	15			
Control	Pre	1.798	0.018	15	14	0.632@	2.145
	Post	1.803	0.017	15			

*Significant at.05 level. @Not Significant at.05 level.

Table- 6 reveals that the 't' ratio values 11.046 of power for experimental group respectively are found to be significant at 0.05 level of significance. The table also shows that there is no significant improvement in case of control group as the calculated 't' ratio value 0.632 is not found to be significant at 0.05 level of significance.

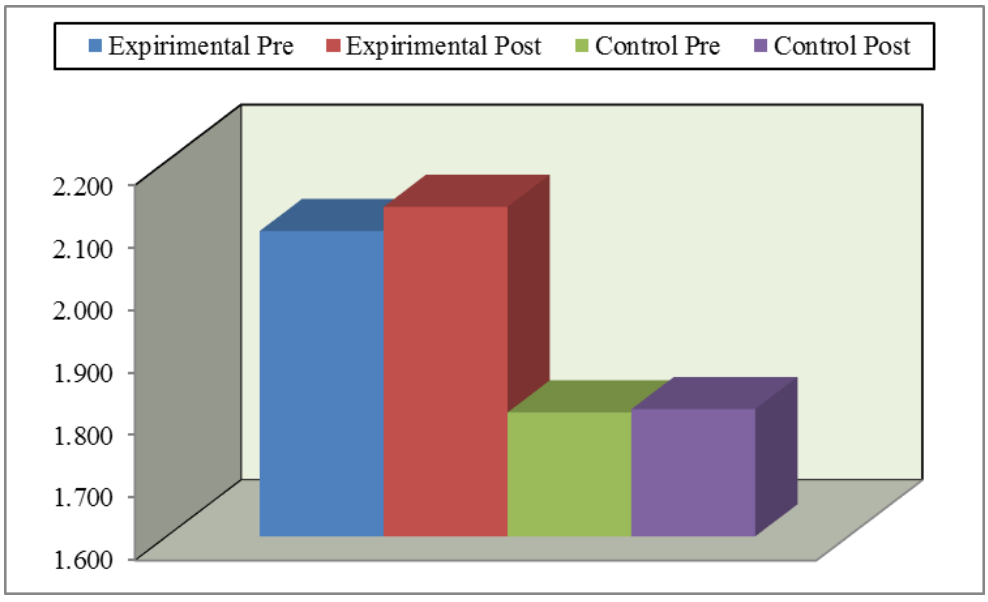

Fig 3: the graph showing the mean value of power between before and after test of experimental and control groups

Conclusion

Within the limitations of the present study and on the basis of the findings the following conclusions were drawn.

In this research it is observed that there has been significance difference between the before and after test experimental group in speed, muscular endurance and power. The result of this study may be helpful in preparing some conditioning / training programme for young athlete for the development of selected motor fitness variables.

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