

Effect of aqua aerobics and floor aerobics on selected physiological variables among college men students

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■ ABSTRACT

The purpose of the study was to find out the effects of aqua aerobics and floor aerobics on selected physiological variables among college men students. To achieve this purpose of the study, ninety college men were selected as subjects who were studying in Govt. College, Moonak, Punjab. The selected subjects were aged between 17 to 21 years. The selected subjects were randomly divided into three groups of 30 subjects each group. Group one acted as experimental group I and group two acted as experimental group II and group three acted as control group. Group one underwent floor aerobics, group two underwent aqua aerobics training for eight weeks and group three underwent routine physical exercise. The subjects were tested on selected criterion variables such as VO_2 max and breath holding time prior to and immediately after the training period. The selected criterion variables such as VO_2 max was measured by 12 minute run and walk test and breath holding time was measured by using stop watch, respectively. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental group and control group on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was a significant difference among the experimental and control group on VO_2 max and breath holding time.

■ Key Words : Aqua aerobics, Floor aerobics, Physical variables

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Physical education aims to keep people "healthy". The physical education/health programmes provide boys and girls with accurate and significant knowledge related to their individual needs and interest. There is also concern for health services and healthy physical and emotional environment. Physical fitness is more than is not being sick or merely being well. It is different from resistance or immunity from disease. Physical fitness therefore is an essential quality in humans (Roy and Irvin, 1983).

Aerobic exercise comprises innumerable forms. In general, it is performed at a moderate level of intensity over a relatively long period of time. For example, running a long distance at a moderate pace is an aerobic exercise, but sprinting is not. Playing singles tennis, with near-

continuous motion, is generally considered aerobic activity, while golf or two person team tennis, with brief bursts of activity punctuated by more frequent breaks, may not be predominantly aerobic. Aqua fitness is the latest fad in the world of fitness. Aqua exercise is any exercise done in water to complement and enhance your regular training and exercise. Aqua aerobics is refreshing as water calm and relaxes one's body. As a low impact exercise, anyone can do aqua aerobics. The body remains submerged in water and this acts a cushion and prevents any form of injury. Aerobic exercise performed in water, known as aqua aerobics. Water aerobics or "waterobics" is the performance of aerobic exercise in shallow water such as a swimming pool. In some areas it is known as Aqua Fit or "Aqua aerobics", and is a type of resistance

training. Some of other benefits of aerobic exercise include the ability to utilize more oxygen during exercise, a lower heart rate at rest, the reduction of less lactic acid, greater endurance. Also may exercise physiologist have found that it reduces blood pressure and changes blood chemistry. It also improves the efficiency of the heart. More evidence is needed to substantiate the belief by some persons that aerobic exercise is reasonable for the development of supplemental blood vessels to heart which would be held in the event of the heart attack, and also that such exercise results in increasing the size of coronary arteries and thus assisting the flow of blood to the heart if the artery is narrowed by a clot (Dobbins *et al.*, 2009).

■ METHODOLOGY

The purpose of the study was to find out the effects of aqua aerobics and floor aerobics on selected physiological variables among college men students. To achieve this purpose of the study, ninety college men were selected as subjects who were studying in Govt. College, Moonak, Punjab. The selected subjects were aged between 17 to 21 years. The selected subjects were randomly divided into three groups of 30 subjects each group. Group one acted as experimental group I and group two acted as experimental group II and group three acted as control group. Group one underwent floor aerobics, group two underwent aqua aerobics training for eight weeks and group three underwent routine physical exercise. The subjects were tested on selected criterion variables such as VO₂ max and breath holding time prior to and immediately after the training period. The selected criterion variables such as VO₂ max was measured by 12 minute

run and walk test and breath holding time was measured by using stop watch. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental group and control group on selected criterion variables separately. Scheffe's post hoc test was used to find out the paired adjusted mean difference when the study was significant. In all the cases, 0.05 level was used to test this significance (Clarke and Clarke, 1988).

■ OBSERVATIONS AND DISCUSSION

The mean and standard deviation scores of pre-test, post-test and adjusted post-test of VO₂ max and breath holding time on aqua aerobics, floor aerobics and control group are given in Table 1. 'F' ratio test computed in regards to the VO₂ max and breath holding time on aqua aerobics, floor aerobics and control group in the pre-test, post-test and adjusted post-test are also presented in Table 1.

The result of this study showed that there was a significant difference between floor aerobic training, aqua aerobic training and control groups on VO₂ max and breath holding time. Further, to determine which of the paired means had a significant difference Scheffe's test was applied and the result is presented in Table 2.

The results of the study showed that both floor aerobic training group and aqua aerobic training group improved the performance of VO₂ max and breath holding time due to the respective training programmes but there was no significant difference between the experimental groups (Table 2).

The findings of the study showed that there was no significant difference between the pretest of VO₂ max and breath holding time. There was a significant difference between

Table 1: Mean standard deviation and 'F' ratio of aqua aerobics floor aerobics and control group on VO ₂ max and breath holding time								
	A A Group	F A Group	Control group	Source of variance	Sum of squares	d.f.	Mean squared	'F' ratio
VO₂ max								
Pre-test mean	2315	2090.17	2101	Between	964633.89	2	482316.94	2.44
S.D.	236.39	151.46	193.64	Within	17197366.56	87	197670.88	
Post-test mean	2593.33	2553.67	2130.33	Between	3951535.56	2	1975767.78	49.23*
S.D.	265.07	110.56	194.07	Within	3491460	87	40131.72	
Adjusted post-test mean	2513.83	2596.37	2167.14	Between	3052405.7	2	1526202.9	52.61*
				Within	2494891.71	86	290110.37	
Breath holding time								
Pre-test mean	36.94	36.79	36.45	Between	123.04	2	61.52	1.54
S.D.	7.27	6.74	4.68	Within	3485.26	87	40.06	
Post-test mean	39.15	40.25	33.14	Between	879.39	2	439.70	9.13*
S.D.	7.16	6.41	7.23	Within	4190.89	87	48.17	
Adjusted post-test mean	38.31	39.56	34.66	Between	376.63	2	188.32	13.31*
				Within	1216.56	86	14.15	

Table 2: Scheffe's test for the difference between the adjusted post-test mean of VO₂ max and resting pulse rate

Variables	Adjusted post test means			Mean difference	Confidence interval at .05
	Floor aerobic group	Aqua aerobic group	Control group		
VO ₂ max	70.71		76.78	6.07*	1.46
	70.71	71.68		0.97	1.46
		71.68	76.78	5.10*	1.46
Breath holding time	38.31		34.66	3.66*	2.42
	38.31	39.56		1.25	2.42
		39.56	34.66	4.90*	2.42

the post-test and adjusted post-test of VO₂ max and breath holding time. The results of the study have shown that there was a significant difference among physical activity training group and control group on VO₂ max and breath holding time.

The results on physiological variable VO₂ max, assessed through Cooper's 12 minute run/walk test and breath holding time assessed by stopwatch presented in Table 1, proved that there was a significant difference between post test means and the adjusted means. Thus, comparing to control group, floor aerobics and aqua aerobics exercises significantly improved the VO₂ max and breath holding time of the college men. Scheffe's post hoc analysis presented in Table 2 proved that aqua aerobics was better than floor aerobics in improving the VO₂ max and breath holding time among college men.

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