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INFLUENCE OF 12 WEEKS OF STEP AEROBICS TRAINING ON CARDIOVASCULAR ENDURANCE AND EXPLOSIVE POWER AMONG COLLEGE MEN

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Abstract
The step aerobics is a method which allows us to do aerobics exercises for the purpose of getting a cardio-respiratory reaction from the concept of lifting your body weight. Step aerobics was innovated by Gin Miller around 1989.The purpose study was to investigate the influence of step aerobics training on cardiovascular endurance and explosive power of college men for the period of 12 weeks. To achieve the purpose 30 college men were randomly selected from Ramakrishna Mission Vivekananda University, Coimbatore as subjects. They were divided into two groups. The group I was considered as experimental group and group II was considered as control group. The experimental group - I was given step aerobics training for five days per week and the control group was not given any exercise. The experimental group was given training for the period of 12 weeks of step aerobics training. The criterion variables were chosen namely cardiovascular endurance and explosive power for this study. All the dependent variables were assessed before and after the training period of 12 weeks. The collected data was analyzed by Independent't' test and level of significance was set at 0.05. The results of the study delivered that the cardiovascular endurance and explosive power were significantly improved due to the influence of step aerobics training for the period of 12 weeks.

Keywords: Step aerobics training, Cardiovascular Endurance and Explosive power

Introduction
Step aerobics (SA) has been viewed a usual and popular workout mode among female on account that the 1980s. Step aerobics training involves stepping up and down on a single bench in choreographed, group-led moves to cadenced musical arrangements. The fine results of SA coaching on body composition have been shown in young (Kravitz, et al , 1993) and older adults (Chien, 2000). Step aerobics has increased lower body strength in older adults, which can be attributed to the repetitive motion of stepping up and down on a bench (Mori et al ,2006)). Step aerobics has increased top body energy as well, due to the fact of its choreographies that involve dynamic actions of the palms (Kravitz, et al, 1993). In addition, improvements in stability and agility have been shown in middle-aged and older adults because of the attribute movements used in SA choreographies (Nnodim, 2006). Improvements in flexibility have been done via

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the range of movement required to function the actions of SA choreographies and stretching exercises (Nelson, et al 2007). Finally, due to the fact SA is viewed a predominantly cardio exercising modality, the majority of investigations have evaluated and shown its really useful effect on cardio respiratory fitness (CRF). The step aerobics is a method which allows us to do aerobics exercises for the purpose of getting a cardio-respiratory reaction from the concept of lifting your body weight. While this concept has been around since the 1950s, it was not until the 1980s that step aerobics came into being in an organized fitness setting and, thus, mainstream popularity. An entrepreneurial woman by the name of Gin Miller is credited with bringing aerobic step to the masses when she finally succeeded in getting Reebok to listen to her idea of innovating step aerobics. Step aerobics is a form of aerobic exercise that uses a 4- to 12-inch platform or step. It is a low-impact form of exercise that is less stressful on the joints than higher impact exercises such as jogging or running. Today, step aerobics is very popular training method in many fitness centers around the country, and classes for this exercise method are offered where there is a group exercise program. We have already confirmed that this exercise program can improve the physical fitness levels and the health outcomes in the players representing various sports and games. We therefore hypothesized that this bench stepping exercise program can improve the cardio vascular endurance and explosive power of college men.

Methodology

To achieve the purpose of study, 30 college men were randomly selected from RVS College of Arts Science, Coimbatore as subjects. They were divided into two groups. The group I was considered as experimental group and group II was considered as control group. The investigator did not make any attempt to equate the group. The experimental group was given step aerobics training for five days per week for 12 weeks. All subjects voluntarily accepted to undergo all the training procedures. The parameters were cardiovascular endurance (Cooper's 12 min run and walk), and explosive power (standing broad jump). The parameters were measured before and after the step aerobics training program. Every two weeks of training 5% of intensity was increased from 65% to 80% of work load. The training load was increased from the maximum working capacity of the subjects during the pilot study.

TABLE NO. 1
TRANINING PROTOCOL

Weeks	Step Aerobics Exercise	Reps & Sets	Intensity in MHR
1	Basic step, Corner knee, Repeater knee, t-step, over the top	2*2	65%
2	Repeater knee, v-step, straddle down, i-step, split step,	2*3	65%
3	Corner knee, Lunges, Over the top, t-step, repeater knee.	2*4	70%
4	Split step, I-step, t-step, straddle down, lunges.	2*4	70%
5	Corner knee, v-step, repeater knee, over the top, split step.	3*5	75%
6	Lunges, Straddle down, Corner knee, t-step, L-step.	3*5	75%
7	Repeater knee, v-step, straddle down, i-step, split step	4*5	80%
8	Lunges, Straddle down, Corner knee, t-step, L-step.	3*5	75%

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Results of the Study

TABLE NO. 2
COMPARISON OF MEAN OF SELECTED VARIABLES

Variables	Groups	Test	Mean	S.D	MD	't' ratio
Cardio. End.	Control Group	Pre	2142.26	395.33	0.01	0.75
		Post	2142.73	395.45		
	Exp. Group	Pre	2344.27	354.01	0.64	16.23*
		Post	2500.07	353.01		
Exp. Power	Control Group	Pre	2.07	0.19	10.47	0.52
		Post	2.07	0.19		
	Exp. Group	Pre	2.21	0.26	8.67	26.71*
		Post	33	0.26		

*Significant at 0.05 level of Significance

Table No. 2 reveals the computation of 't' ratio between mean of pre-test and post-test of control and experimental groups on selected variables. The mean values of pre and post test of cardiovascular endurance and explosive power for control group were 2142.26 and 2142.73 and2.066 and 2.068 respectively. Since the obtained 't' ratio 0.75 and 0.52 were lesser than the required table value 2.145. It was found statistically not significant at 0.05 level of significance. The mean values of pre and post test of cardiovascular endurance and explosive power for experimental group were 2344.27 and 2500.07, and 2.21 and 2.33 respectively. Since the obtained 't' ratio 16.23 and 26.71 were greater than the required table value 2.145. It was found statistically significant at 0.05 level of significance.

Discussions of Findings

The present study experimented the effect of step aerobics training on cardiovascular endurance and explosive power of college men. . The result of this study indicated that the step aerobics training improved the cardiovascular endurance and explosive power. The findings of the present study had similarity with the findings of the investigations referred in this study.Kostic, et.al, (2005) indicated that cardio vascular fitness was improved by step aerobic dance program. Further they suggested that if aerobic dance practiced over a longer period of time with training sessions three times a week for shorter period of time on condition that the intensity of the exercise remains the same.

Peschar, et.al, (1991) suggested that individuals can improve their muscular strength through aerobic dance programme.Arslan (2011) reported that the step aerobic dance programme proved to be a useful exercise modality for weight loss and in terms of body composition.Williams, et.al, (1986) reported that the 12 weeks aerobic dance programme was successful in promptly beneficial changes in cardio respiratory fitness and body composition.The results of the present study indicated that the step aerobics training programme is effective method to improve cardiovascular endurance and explosive power of college men.

Conclusions

In light of the results of the study and the limits of the sample and the framework of statistical treatments used, the following conclusions were made.It was concluded that eight weeks of step aerobics training program produced significant improvement in cardiovascular endurance of college men. The eight weeks of step aerobics training programme produced significant improvement in explosive power of college men.

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