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EFFECT OF PLYOMETRIC TRAINING ON ENDURANCE OF KARATE PLAYERS

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ABSTRACT

The aim of this study was to investigate the effects of plyometric training on the Endurance of Karate Players. The study was conducted on 60 Karate players, from the Traditional Shotokan Karate Academy Hagaribommanahalli, Vijayanagara District. The age ranged between 15 to 25 years. The study's real randomised group design included the pre- and post-tests. Two equal groups of 30 subjects each were created from the subjects (n=60). The control group and the plyometric exercise group were divided equally across the groups. The control group received no training at all, whereas the experimental group engaged in three days of alternate-day plyometric training over the course of twelve weeks. After twelve weeks of training, a statistical t-test was used to compare the data. The significance level has been fixed at 0.05. According to research, plyometric training may have an effect on Karate players' Endurance.

KEYWORDS: Plyometric training, Endurance, t-test.

INTRODUCTION

Generally speaking, endurance is a physical skill that plays an important role in our body's health and fitness. Along with endurance many other factors help us to perform activities of daily living. Repetitive activities develop health and fitness levels.

An additional component of training to increase endurance in Karate athletes is repetition. Chronic repetition of exercise facilitates progressive development of endurance in players. Karate training involves a variety of movements such as strikes, kicks, blocks and grappling. This program consistently presents physical demands that prevent repetition. This type promotes the development of cardiovascular endurance by increasing the heart rate while activating multiple muscle groups.

Karate training is exceptional for cardiovascular endurance due to its combination of physical activity, mental focus, variety of movements and a supportive environment. From improving heart health to building strength and coordination, Karate training provides a comprehensive workout that benefits both body and mind. Another way of looking at endurance and Karate is that you need to acquire a certain physical endurance, a certain feeling of well-being, through specific training to overcome an opponent.

To make your endurance training more specific to martial arts, plyometric training can be helpful in varying the intensity of your training routine. Karate is a sport of high intensity. Therefore it is important to perform plyometric training at a range of intensities. This training is high-intensity.

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Plyometric training in martial arts is one of a kind and a great way to strengthen your heart and lungs. Classes are very intense and fast paced and focus on proper form. It makes for a great overall workout for both body and mind. Plyometric training is a great way to work your entire body and reap many benefits, including long-term results. It helps strengthen your legs and arms and improve your flexibility, balance and coordination.

Methodology:

In this investigation, researcher chose 60 (Sixty) Karate players from the Traditional Shotokan Karate Academy, Hagaribommanahalli Vijayanagara district. The Subjects were randomly selected and assigned to two groups of thirty Karate practitioners in each, one control and one experimental. Plyometric exercises were assigned to the experimental group. Plyometric exercises were assigned to the experimental group for Three days a week, alternating, for one hour, from 6:30 to 7:30 in the morning, necessary instructions were given. Plyometric training was offered to the Karateka's. no instruction was given to the control group, For both groups' pre-test was conducted before commencing the training and post-test was conducted at the completion of four, eight, and twelve weeks training. Endurance was measured with the help of 30 second Burpe test. To know the effect of plyometric training on Endurance of Karateka's at four, eight, and twelve weeks, data was treated with statistical technique't' test at 0.05 level of significance.

Training Procedure:

The experimental group performed plyometric training with training exercises in the morning session three times a week on alternate days for twelve weeks. The training session consists of warm-up and cool-down exercises. The daily workout lasted about 60 minutes under the supervision of the researcher according to a schedule like pull ups, rope slams, medicine ball throw, jump and push ups, jump squats, jump leg lunges, pike jumps, tuck jumps. Karate players in during the testing period, the control group received no particular training.

The results obtained after statistical treatment are presented in the following tables.

Table 1: Shows Mean, standard deviation and t value of groups.

Test	Group	Mean	Std. Dev.	't' value	df	Sig
Test Before Training	Control Group	6.70	1.34	-0.39	29	0.69
	Experimental Group	6.56	1.16			
Four week Training	Pre Test Experimental Group	6.56	1.16	3.07	29	0.05*
	4 Week Post Test	7.20	1.12			

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	Experimental Group					
Eight week Training	Pre Test Experimental Group	6.56	1.16	4.74	29	0.00*
	8 Week Post Test Experimental Group	7.90	1.34			
Twelve week Training	Pre Test Experimental Group	6.56	1.16	7.31	29	0.00*
	12 Week Post Test Experimental Group	8.53	1.07			

*Significance at 0.05 Level

The above table compares the control and experimental groups' pre and post-test Endurance competence, four-week, eight-week and twelve-week training scores. The obtained‘t’ value of the control and experimental groups' pre-test scores is -0.39, indicating that there is no significant difference in pre-test scores between the two groups. After four weeks, the t value scores obtained between the experimental group are 3.07*, indicating that there is a significant difference. After eight weeks, the t value scores obtained between the experimental group are 4.74*, indicating that there is a significant difference. After twelve weeks, the t scores obtained between experimental groups are 7.31*, indicating that there is a significant difference. This shows that there is a considerable variation in pre-investigation scores between groups. This clearly shows that the effect of Plyometric training practises on Karate player’s endurance.

Graphical representations of mean values of Endurance of pre-test, four weeks test eight weeks test and twelve weeks scores of control and experimental group are presented in the figure-1.

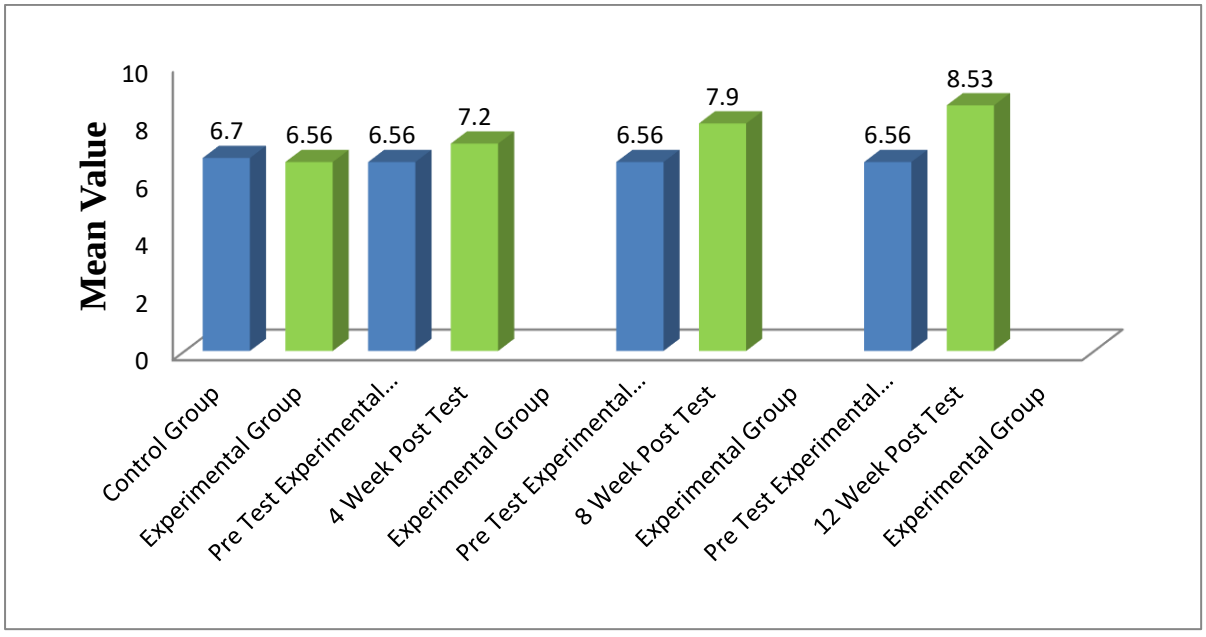

Figure-1: Graphical representations of mean values of Endurance of pre-test scores of four weeks, eight and twelve weeks test scores of experimental groups.

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Results and Discussion

In Endurance, Before Training, the result of present study showed that there is no significant difference in pre-test scores of control and experimental groups.

After four, eight and twelve weeks of plyometric training, there is a significant difference in pre-test and post-test of experimental group in Endurance.

Statistical analysis shows that four, eight and twelve weeks of plyometric exercise improves Endurance ability. Plyometric training is a great way to strengthen the heart and lungs. An investigation shows that plyometric training improves endurance. Overall, Karateka's have the potential to increase their strength and endurance, which supports the recommendation of plyometric exercise regimens. In terms of endurance, plyometric training, and the control group, there were also notable differences between the experimental groups. We can draw a conclusion from it. Plyometric training is therefore the most effective way to increase Karate Players endurance.

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