Research Paper

Volume : 2 | Issue : 10 | October 2013 • ISSN No 2277 - 8179

Effect of Game-Specific Strength Training on Selected Physiological Variables among Badminton Players

Physical Education

KEYWORDS : Game – Specific Strength training, Resting Pulse Rate and Breath Holding Time.

D. Raman — Part time Research Scholar, Department of Physical Education, H.H.The Rajah's College, Pudukkottai-622001.

Dr. A. S. Nageswaran — Associate Professor, Department of Physical Education, H.H.The Rajah's College, Pudukkottai.

ABSTRACT

The study was designed to find out the effect of game-specific strength training on selected Physiological variables among Badminton players. To achieve the purpose, 20 (boys) Badminton players were selected as subjects from different schools of Pudukkottai town. They were divided into two groups of 10 subjects each as experimental and control groups. The subjects age ranged between 15 to 18 years. The subjects of the experimental group underwent a programme of game-specific strength training in addition to their regular training for 8 weeks duration where as control group did not receive training. The following variables such as Breath holding time and Resting pulse rate were selected as dependent variables. Analysis of covariance (Ancova) was used to analysis and interpret the data. The results of the study revealed that the experimental group had registered significant improvement on all the dependent variables when compared to the control group.

INTRODUCTION

Badminton is an extremely demanding sport. At an elite level, players are often required to perform at their maximum limits of speed, agility flexibility, endurance and strength. On top of all of this, players must maintain a high state of concentration in order to meet the tactical and mental demands of dealing with their opponents. The varied potential stresses of competitive play are considerable . It is therefore familiar with the physiological requirements of the game and how 'Badminton fitness' can be enhanced.

Speed and agility are quite closely linked to strength. Speed, in particular is usually improved when strength and power are enhanced. Both speed and agility are vital to Badminton performance. A successful players must move quickly when necessary but changes in direction are equally important in the game due to the nature of the movements required in a rally. It is important to remember that speed and agility will not be improved if a player in training is too tired. Speed and agility must be trained when a player is relatively fresh, but after a good warm up.

Badminton is a highly complex sport and it presents great challenges for players and coaches of all levels. An individual rally is a series of demanding movements performed using a movement pattern which is unique compared with any other sport. Rally length is often short (average for elite players is around 6-8 seconds) and consequently, performed at very high intensity. However, players must also be prepared for long rallies. Rallies are interspersed with short rest periods (typical duration around 15 seconds) which allow partial recovery from the previous rally. However, competitive matches may last at least 45 minutes. So, badminton is a combination of speed (anaerobic fitness) in rallies and endurance (aerobic fitness) to allow sustained efforts and to promote recovery between rallies. Hence great strength, power, agility and flexibility are also required. All of these fitness components should form part of a player's fitness training. Additionally, the development of tactical and technical elements is, of course, also vital. With all these types of training, an understanding of the principles of fitness training from a general point of view is essential.

STATEMENT OF THE PROBLEM

The purpose of the present investigation was to determine the effect of game-specific strength training on selected physiological variables among Badminton players.

HYPOTHESES

Is was hypothesized that there might be a significant improvement in selected Physiological variables. Among Badminton players due to Strength training.

METHODOLOGY

To achieve the purpose of this study, twenty Badminton (boys) players of different age school of Pudukkottai district were selected. They were divided onto two groups namely strength training group and control groups of ten subjects each. The experimental group underwent strength training for eight weeks of two days per weeks. The group – II acted as controls who were not engaged in any special activities other than their daily routine. Selected as criterion variable the following variables such as Breath Holding Time and Resting Pulse Rate were selected as Independent variable. The criterion variables were assessed by using the standardized tests as detailed below and Table-I. Analysis of Covariance (ANCOVA) was used to determine the effect of Strength training on selected dependent variables. In all cases, the probability level of .05 level of confidence was selected to test statistical significance.

TABLE –II

ADJUSTED POST – TEST MEANS OF EXPERIMENTAL AND CONTROL GROUPS ON THE SELECTED PHYSIOLOGICAL VARIABLES.

Sl. No	Variables	Adjusted Post test means		SOV	df	SS	MS	"F"
		Exp.	Con					
1.	Breath Holding Time	30.153	26.741	SSB	1	57.563	57.563	35.592*
				SSW	17	27.494	1.617	
2.	Resting Pulse Rate	63.216	66.984	SSB	1	67.041	67.041	49.450*
				SSW	17	23.047	1.356	

Significant at 0.05 level of confidence table required for significance at .05 levels is 1 and 17 is 4.45.

It is observed from table II that the F-ratio values for adjusted post test means of Experimental and control groups on Breath Holding Time and Resting Pulse Rate were 35.592 and 49.450 respectively. The obtained F-ratio values are greater than the table value of 4.45 for df. 1 and 17 required fro significance at 0.05 level of confidence. Hence, it is evident that there existed significant difference among the adjusted post test means of experimental and control groups on the development of selected criterion variables. It implied that the subjects of the experimental group had significantly improved their physiological factors because of game specific strength training programme.

CONCLUSIONS

From the analysis of the data, the following conclusions were drawn.

The game-specific strength training group achieved significant

improvement –n Breath holding time and Resting pulse rate.

Control group did not improve the physiological factors as they have not subjected to any specific strength training.

REFERENCE

Luecke, T., et.al. "STRENGTH ACTIVITIES ONLY IMPROVES SPECIFIC STRENGTH, Medicine and Science in Sports and Exercise, 26(5), (1996). | Grown, S.W., et.al. "STRENGTH ACTIVITIES ONLY IMPROVES SPECIFIC STRENGTH, , Medicine and Science in Sports and Exercise, 28(5), (1996). | Gibson, A.J.A REVIEW OF SOME ASPECTS AFFORING SPEED, MEDLINE AND SCIENCE IN SPORTS, (1979). | Matveyev, L.Fundamentals of sports training, (USSR, Progress Publishers, 1981). |