Intervention of Specific Package of Badminton Drills on Selected Physiological Variables in Badminton

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Abstract

The purpose of the study was to find the intervention of specific package of badminton drills on selected physiological variables in badminton. Thirty men Badminton players who attended the state level coaching camp conducted by sports authority of Tamilnadu, Chennai were selected as subjects for this study. They were selected at random basis. All the subjects were experienced players who had already participated state level tournaments. The subjects were randomly divided into two equal groups and each group contains fifteen subjects. Group 1 acted as experimental group and group-2 acted as control group. Experimental group undergone specific package of drills in badminton for a period of six weeks. The control group not participated in such a programme. Their age ranged between 14 and 18 years. Based on the knowledge gained through review of related literature, the investigator selected the following dependent and independent variables namely anaerobic power and forced vital capacity tested through Margaria – Kulamen Power test and spirometer test, collected data were analysed through ANCOVA. It was concluded that specific packages of badminton drills significantly improved anaerobic power of badminton players. It was also found that specific packages of badminton drills significantly improved forced vital capacity of badminton players.

Key words: Badminton drills, badminton, anaerobic power and forced vital capacity.

Introduction

Over three thousand years ago, the Greeks realized the need to provide effective and efficient training for the athletes taking part in the Olympics games. But since 1950s many countries have recognized the importance of an effective sports training programme in a wide range of activities not only for the success inn major International competitions but also for the development of healthy participants. Comprehensive sports training programme is the key factors in producing the skilful high performance.

Day to day life needs graceful movement of the body segments in a normal men and much more in athletes. The efficiency of the human body depends upon many factors. Physical fitness is an important factor as it is pre-requisite to skill-teaching and performance in sports and games.

In general usage, the term "training" is used to denote different things. In the broad sense, training today is used to mean any organized instruction whose aim is to increase man's physical psychological, intellectual or

mechanical performance rapidly. In the field of sport we speak of training in the sense of preparing sportsman for the highest levels of performance.

Review of Related Studies

Rajibell (2008) studies the compartive effect of aerobic and anaerobic training on playing ability of badminton player,30 male badminton player from different college of chennai were randomly selected as subjects and their age were 18-25 year . they were assigned into three groups of which one groupsserved as aerobic groups , second group served as anaerobic training groups and the third groups served as control groups . it was found it was concluded that aerobic training improved playind ability of badminton players significantiy .and there was no significant different between aerobic training and anaerobic training in improving the playing ability of the badminton players.

Khandelwal , et, al.(2012) documented that badminton is afamous sports usually played without any protective eyewear . ocular injury from one's own partner in adoubles game , with the shuttlecock , is rare .two untrained badminton players presented with severe ocular trauma during a smash shot from the partner in a 'doubles 'games. Both the players developed blind eye (vision <3/60) in spite of immediate treatment. This article describes an unusual mode of servere blunt trauma with a shuttlecock while playnd a "double " game , leading to coup –countercoup injury .in addition , the article highlights the need for awareness of the fatal ocular complication and life-long visual disability, espically in untrained badminton enthusiasts.

Gnanabakthan (2008) made a compartive syudy on selected strength variables and cardiovascular endurance among university , tennis , badminton and volleyball player . it was found that the different obtained in the sterngth and cardiovascular endurance was tested throught statisical treatment . one analysis of variance (ANOVA) was employed to test the significant differnces among the three groups . in all the cases , 0.05level of confidence was fixed to test the significance , which was considered as appropriate.

Kondric ,et,al. (2011) studied the frequency of injuries among tennis , tennis and badminton players, types of injuries and severity of –the latter based on data of players absences from training and /or competition processes. The most liable parts to injuries are shoulder girdle (17. 27) , spine (16.55) and ankle (15.83), while foot (10. 07) ad wrist (12.23%) are slightly less liable to injuries . the most frequent injuries I racket sports pertain to muscle tissues . according to this data, the mjority of injuries occur halfway through a training session or a competition event , mostly during a competition season . the injuries primarily pertain to muscle

tissues ; these are female players . compared to other racket sprots players, table tennis players suffer from fewer injuries.

Methodology

The purpose of the study was to find the intervention of specific package of badminton drills on selected physiological variables in badminton. Thirty men Badminton players who attended the state level coaching camp conducted by sports authority of Tamilnadu, Chennai were selected as subjects for this study. They were selected at random basis. All the subjects were experienced players who had already participated state level tournaments. The subjects were randomly divided into two equal groups and each group contains fifteen subjects. Group 1 acted as experimental group and group-2 acted as control group. Experimental group undergone specific package of drills in badminton for a period of six weeks. The control group not participated in such a programme. Their age ranged between 14 and 18 years. Based on the knowledge gained through review of related literature, the investigator selected the following dependent and independent variables namely anaerobic power and forced vital capacity tested through Margaria – Kulamen Power test and spirometer test, collected data were analysed through ANCOVA.

Training Schedule

Experimental group underwent the following specific package ofbadminton drills for 6 weeks. The experimental session started with a brief warm up for 10 minutes and cool down for 10 minutes . each session was lasted for one hour daily exept on Sunday .

The following drills were given to the experimental group General drills, Foot work drills, Drills – clearing , Drills clearing corner to corner – without rest, Drills – hover drills, drills up and back with hover, Drills lift – drop-drop, Drills net drives, Drills net drives wih three players , Wall rally drill, Specific drills, Multiple shuttles –overhead strokes, Multiple shuttles- net play, Half court singles, King of the court.

Result

Table-I

Computation of Analysis of Covariance on Anaerobic Power

	Experi-mental group	Control	Source of variance	Sum of squares	Df	Mean Squares	Obtained f
Pre Test Mean	75.78	77.41	Between Within	20.01 2720.16	1 28	20.01 97.15	0.21
Post Test Mean	84.13	80.78	Between Within	84.00 2417.19	1 28	84.00 86.33	0.97
Adjusted Post Test Mean	84.76	80.15	Between Within	157.78 806.41	1 27	157.78 29.87	5.28*
Mean Diff	8.35	3.37					

Table F-ration at 0.05 level of confidence for 1 and 28 (df)=4.20, 1 and 27(df)=4.21 * Significant at 0.05 level.

The pre test mean on aerobic power of experimental group was 75.78, and control group was 77.41 and the obtained F value was 0.21, which was lesser than the required F value of 4.20 to be significant. Hence, it was not significant and the groups were equal at initial stage.

The comparison of post test means, experimental group 84.13 and control group 80.78. The obtained F value 0.97 was lesser than the required table F value of 4.20 to be significant at 0.05 level.

Taking into consideration the initial and final mean values adjusted post test means were calculated and the obtained F value of 5.28 was greater than the required F value of 4.21. Hence,it was proved that there was significant difference among the group

Thus, it was proved that experimental group gained mean difference on, Anaerobic Power 8.35 was due to Specific package of badminton drills given to badminton players, and the difference was found to be significant at 0.05 level. The initial, post and adjusted means values of experimental and control group on Anaerobic Power is presented in Figure 1 for better understanding of the results of this study.

Figure-1

The Initial, Post and Adjusted Means Values of Experimental and Control Group on Anaerobic Power

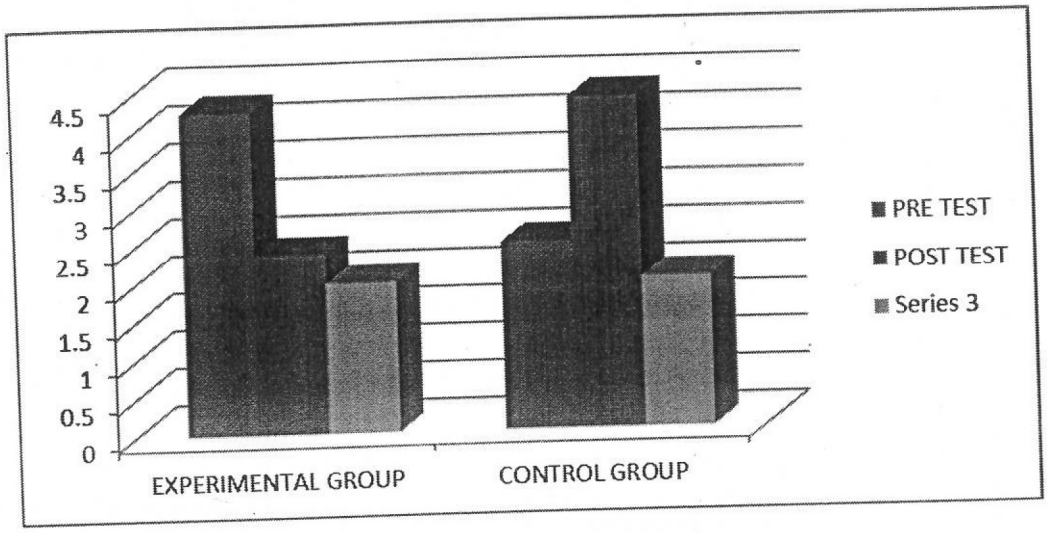


Table-II

Computation of Analysis of Covariance on Forced Vital Capacity

	Experi-mental group	Control	Source of variance	Sum of squares	Df	Mean Squares	Obtain f
Pre Test Mean	3340.00	3226.67	Between Within	72250.00 86301500.00	1 28	72250.00 2271092.11	0.03
Post Test Mean	3713.33	3236.67	Between Within	1278062.50 95382875.00	1 28	1278062.50 2510075.66	0.51
Adjusted Post Test Mean	3654.72	3295.28	Between Within	726103.10 3041233.54	1 27	726103.10 82195.50	58.83*
Mean Diff	373.33	10.00					

Table F-ration at 0.05 level of confidence for 1 and 28 (df)=4.20, 1 and 27(df)=4.21. * significant at 0.05 level.

The above table shows the pre test mean on forced virtal capcity of experimental group was 3340.00, and control group was 3226.67 and the obtained F value was 0.03, which was lesser than the required F value of 4.20 to be significant. Hence, it was not significant and the groups were equal at initial stage.

The comparison of post test means, experimental group was 3713.33 and control group was 3236.67. The obtained F value 0.51 was of lesser than the required table F value of 4.20 to be significant at 0.05 level.

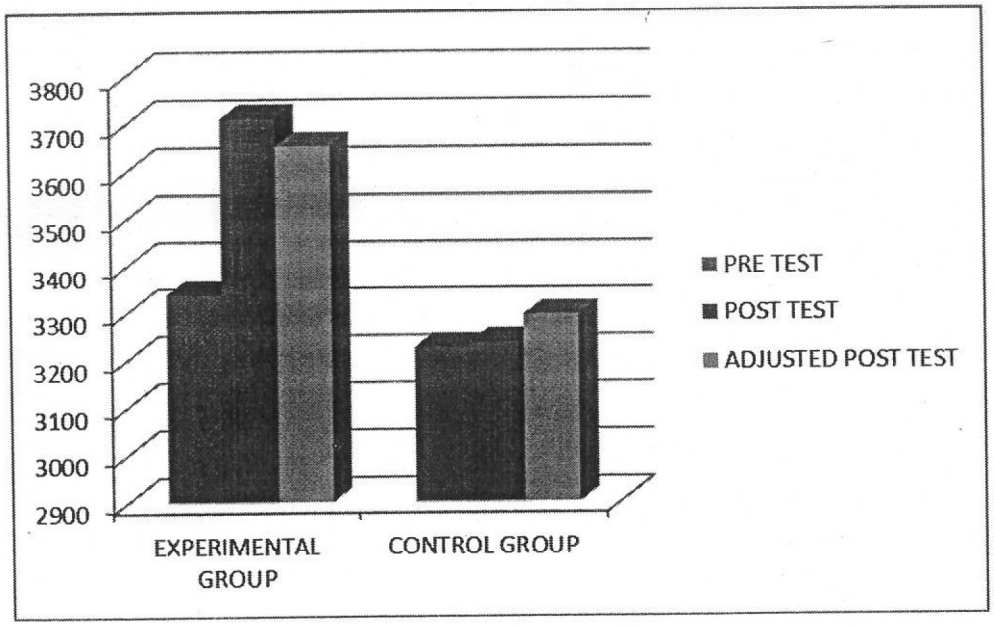
Taking into consideration the initial and final mean values adjusted post test means were calculated and the obtained F value of 8.83 was greater than the required F value to be significant 4.21 and hence, there was significant difference.

Thus, it was proved that experimental group gained mean difference on, Forced Vital capacity 373.33 was due to Specific package of badminton drills given to badminton players, and the difference was found to be significant at 0.05 level.

The initial, post and adjusted means values of experimental and control group on Forced Vital capacity is presented in Figure II for better understanding of the results of this study.

Figure-2

The Initial, Post and Adjusted Means Values of Experimental and Control Group on Vital Capacity



Conclusion

It was concluded that specific packages of badminton drills significantly improved anaerobic power of badminton players.

It was found that specific packages of badminton drills significantly improved forced vital capacity of badminton players.

References

Rajbell (2008), "comparative effect of aerobic and anaerobic training on players ability of badminton players", unpublished masters thesis , submitted to tamilnadu physical education and sports university.

Gnanabakkthan (2008) ,' comparitive analysis of selected strength variables and cardiovascular endurances among university tennis , badminton and volleyball players ", unpublished thesis submitted to tamilnadu physical education and sports university .

Kondric m,et,al. (2011)." Injuries in racket sports among slovenian players .', coll antropol. Jun ; 35 (2); 413-7.

Khandelwal r, et, al. (2012),' an unusually mechanism of ocular trauma inbadminton platers ; two incidental cases .', BMJCASE REP . AUG 8;2012.

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