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Effect of Explosive Training on Selected Performance Related Variables among University Men Volleyball Players

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Abstract

The purpose of the study was to find out the effect of explosive training on selected performance related variables among university men Volleyball players. To achieve this purpose of this study, thirty men Volleyball players studying in the Jamal Mohamed College, Tiruchirapalli, Tamilnadu, India, during the academic year 2016 – 2018 were randomly selected as subjects. The age, height and weight of the selected subjects were ranged from 18 to 23 years, 175 to 185 cm and 65 to 79 kilogram respectively. The selected subjects were divided into two equal groups of fifteen subjects each at random. Group I underwent explosive training for three days per week for twelve weeks. Group II acted as control that did not undergo any special training programme apart from their regular physical education activities as per their curriculum. In this study, the explosive training was selected as independent variable. The following variables namely passing ability and serving ability were selected as criterion variables. The pre and post test random group design was used as experimental design. The data were collected from the two groups at prior to and immediately after the training programme on selected dependent variable such as passing ability and serving ability by using Russel Lange Volleyball test. The analysis of covariance (ANCOVA) was used to determine the differences, if any, among the adjusted post test means on selected dependent variables. The .05 level of confidence was fixed as the level of significance. The results of the study showed there was a significant difference between explosive training group and control group on selected performance related variables such as passing ability and serving ability. The explosive training showed significant improvement on selected performance related variables such as passing ability and serving ability.

Keywords: Explosive Training, Performance Related Variables, Passing Ability, Serving Ability.

Introduction

Volleyball is a team sport in which two teams of six players are separated by a net. Each team tries to score points by grounding a ball on the other team's court under organized rules. The complete rules are extensive, but simply, play proceeds as follows: a player on one of the teams begins a 'rally' by serving the ball (tossing or releasing it and then hitting it with a hand or arm), from behind the back boundary line of the court, over the net, and into the receiving team's court. The receiving team must not let the ball be grounded within their court. The team may touch the ball up to 3 times but individual players may not touch the ball twice consecutively. Typically, the first two touches are used to set up for an attack, an attempt to direct the ball back over the net in such a way that the serving team is unable to prevent it from being grounded in their court.

Methodology

The purpose of the study was to find out the effect of explosive training on selected performance related variables among university men Volleyball players. To achieve this purpose of this study, thirty men Volleyball players studying in the Jamal Mohamed College, Tiruchirapalli, Tamilnadu, India, during the academic year 2016 – 2018 were randomly selected as subjects. The age, height and weight of the selected subjects were ranged from 18 to 23 years, 175 to 185 cm and 65 to 79 kilogram respectively. The selected subjects were divided into two equal groups of fifteen subjects each at random. Group I underwent explosive training for three days per week for twelve weeks. Group II acted as control that did not undergo any special training programme apart from their regular physical education activities as per their curriculum. In this study, the explosive training was selected as independent variable. The following variables namely passing ability and serving ability were selected as criterion variables. The pre and post test random group design was used as experimental design. The data were collected from the two groups at prior to and immediately after the training programme on selected dependent variable such as passing ability and serving ability by using Russel Lange Volleyball test. The analysis of covariance (ANCOVA)

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was used to determine the differences, if any, among the adjusted post test means on selected dependent variables. The .05 level of confidence was fixed as the level of significance.

Passing Ability

The analysis of covariance on passing ability of the pre and post test scores of explosive training group and control group have been analyzed and presented in Table 1.

Table 1

Analysis of covariance of the data on passing ability of pre and post tests scores of explosive training group and control groups

Test	Explosive training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	21.80	21.67	Between	0.13	1	0.13	0.05
S.D.	1.60	1.36	Within	81.73	28	2.92	
Post Test							
Mean	23.13	21.80	Between	13.33	1	13.33	4.70*
S.D.	1.70	1.60	Within	79.47	28	2.84	
Adjusted Post Test							
Mean	23.08	21.86	Between	11.12	1	11.12	54.62*
			Within	5.50	28	0.20	

* Significant at .05 level of confidence.

(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

The table 1 shows that the pre-test means on passing ability of explosive training group and control group are 21.80 and 21.67 respectively. The obtained "F" ratio of 0.05 for pre-test mean is lesser than the table value of 4.21 for df 1and 27 required for significance at .05 level of confidence on passing ability. The post-test means on passing ability of explosive training group and control group are 23.13 and 21.80 respectively. The obtained "F" ratio of 4.70 for post-test mean is greater than the table value of 4.21 for df 1and 27 required for significance at .05 level of confidence on passing ability. The table 1 further shows that the adjusted post-test means on passing ability of explosive training group and control group are 23.08 and 21.86 respectively. The obtained "F" ratio of 54.62 for adjusted post-test mean is greater than the table value of 4.21 for df 1and 27 required for significance at .05 level of confidence on passing ability. The results of the study showed that there was a significant difference between the adjusted post test mean of explosive training group and control group on passing ability.

Serving Ability

The analysis of covariance on serving ability of the pre and post test scores of explosive training group and control group have been analyzed and presented in Table 2.

Table 2
Analysis of covariance of the data on serving ability of pre and post tests scores of explosive training group and control groups

Test	Explosive training group	Control Group	Source of Variance	Sum of Squares	df	Mean Squares	Obtained 'F' Ratio
Pre Test							
Mean	40.87	40.73	Between	0.13	1	0.13	0.11
S.D.	0.96	1.14	Within	32.67	28	1.17	
Post Test							
Mean	44.67	41.07	Between	97.20	1	97.20	21.35*
S.D.	1.12	0.85	Within	127.47	28	4.55	
Adjusted Post Test							
Mean	44.62	41.11	Between	92.34	1	92.34	144.31*
			Within	17.28	28	0.64	

* Significant at .05 level of confidence.
(The table values required for significance at .05 level of confidence with df 1 and 28 and 1 and 27 were 4.20 and 4.21 respectively).

The table 2 shows that the pre-test means on serving ability of explosive training group and control group are 40.87 and 40.73 respectively. The obtained "F" ratio of 0.11 for pre-test mean is lesser than the table value of 4.21 for df 1and 27 required for significance at .05 level of confidence on serving ability. The post-test means on serving ability of explosive training group and control group are 44.67 and 41.07 respectively. The obtained "F" ratio of 21.35 for post-test mean is greater than the table value of 4.21 for df 1 and 27 required for significance at .05 level of confidence on serving ability. The table 2 further shows that the adjusted post-test means on serving ability of explosive training group and control group are 44.62 and 41.11 respectively. The obtained "F" ratio of 144.31 for adjusted post-test mean is greater than the table value of 4.21 for df 1and 27 required for significance at .05 level of confidence on serving ability.

Conclusions

1. There was a significant difference between explosive training group and control group on passing ability and serving ability among college men volleyball players.
2. And also it was found that there was a significant improvement on selected criterion variables such as passing ability and serving ability due to explosive training.

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