

Effect of specific exercise programme on selected physical fitness variables among volleyball players

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■ ABSTRACT

The purpose of the study was to find out the effect of specific exercise programme on selected physical fitness variables among volleyball players. To achieve this purpose of the study, thirty women volleyball players were selected from the Department of Physical Education, Desh Bhagat College, Bardwal, Punjab. The age of the subjects were between 19 and 25 years. They were divided into two equal groups of fifteen each, Group I underwent specific exercise programme and Group II acted as control that did not participate in any special training apart from their regular curricular activities. The subjects were tested on selected criterion variables such as speed and explosive power prior to and immediately after the training period. The selected criterion variable such as speed was measured by 50 yards dash and explosive power was measured by vertical jump, respectively. The analysis of covariance (ANCOVA) was used to find out the significant differences if any, between the experimental and control groups on selected criterion variables separately. In all the cases, 0.05 level of confidence was fixed to test the significance, which was considered as an appropriate. The result of the present study has revealed that there was a significant difference among the experimental and control groups on speed and explosive power.

■ **Key Words :** Exercise programme, Physical fitness, Variables, Volleyball

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Fitness is a state which characterise the degree to which a person is able to function. Ability to function depends upon the physical, mental, emotional, social and spiritual components of fitness all of which is relative to each other and is mutually independent. Fitness is a term synonym to health in a limited manner. Fitness denotes different factors of health. The term fitness is the capacity of the individual to live and function effectively and purposefully.

Fitness is a multifaceted characteristic that encompasses several physiologically independent components. These components are muscular strength, muscular endurance, anaerobic power, cardio-respiratory endurance and flexibility (Frost, 1971). Fitness can be developed with conditioning programme that combines proper individual exercise techniques in a manner that is consistent with several established principles of training (Shultz, 1996). Volleyball

plyometrics can help to increase your vertical jump and explosive power around the court. However, they should be performed alongside or following a sport-specific resistance training programme. While plyometrics is a very effective form of power training (and volleyball-specific), there are some important considerations to consider before adopting this form of conditioning into your routine. Remember firstly that explosive power is a function of both strength and speed of muscular contraction. Volleyball plyometrics exercises will help condition your neuro-muscular system to apply a greater level of force in a shorter period of time. However, if you lack basic strength, their effectiveness will be limited. Plyometric training also places a high level of stress on joints, connective tissues and the neuro-muscular system. Without a well-developed strength base, stress related injuries are much more likely to occur. Ballistic training is very close to plyometrics training

and often referred as plyometrics. Explosive push ups, squat jumps, frog jumps, medicine ball throws are ballistic or plyometric exercises which are excellent for volleyball players. To maximize the development of qualities needed - volleyball players should have specific periods in the training schedule, which each focuses on specific qualities needed in volleyball. Volleyball is an explosive sport that incorporates all different types of movements in multiple planes of direction. In order to prepare the athlete for these types of movements, one must train that way. The term “sport specific” is used in describing these training methods. A combination of olympic/power lifts, strength lifts, supplemental lifts, plyometrics, core stability, agility, speed development and flexibility are all used in designing a well rounded volleyball specific workout programme. To become the best volleyball player possible, you must have strength, power, speed, agility and flexibility all working together in one fluid motion. Our primary goal here at the University of Miami - Strength and Conditioning is to keep the athlete injury free by working hand in hand with team doctors, athletic trainers as well as the coaching staff. We do this by designing a sport specific programme that encompasses all of these methods of training.

METHODOLOGY

The purpose of the study was to find out the effect of specific exercise programme on selected physical fitness variables among the volleyball players. To achieve this purpose of the study, thirty women volleyball players were selected from the Department of Physical Education, Desh Bhagat College, Bardwal, Punjab. The age of the subjects ranged between 19 and 25 years. They were divided into two equal groups of fifteen each, Group I underwent specific exercise programme and Group II acted as control that did not participate in any special training apart from their regular curricular activities. The experimental group underwent the training programme for three days per week for eight weeks. Among the physical fitness variables, the variables such as speed was measured by 50 yards dash and explosive power was measured by vertical jump, were selected as criterion variables. The data were collected at prior and immediately after the training programme for each criterion variable. Analysis of covariance (ANCOVA) was applied for analyze the data. In all the cases, 0.05 level was used to test this significance (Clarke and Clarke, 1988).

OBSERVATIONS AND DISCUSSION

The mean and standard deviation scores of pre-test, post-test and adjusted post-test of speed and explosive power on specific exercise programme and control group are given in Table 1.

‘F’ratio test computed in regards to the speed and explosive power on specific exercise programme and control

Table 1: Mean standard deviation and ‘F’ ratio of specific exercise programme and control group on speed and explosive power

Variables	Physical activity		Control		‘F’ ratio
	Mean	S.D.	Mean	S.D.	
Speed	Pre-test	7.4	7.23	0.51	0.78
	Post-test	6.79	7.46	0.77	7.71*
	Adjusted post-test	6.74	7.51		12.73*
Explosive power	Pre-test	50.47	49.33	2.33	1.33
	Post-test	51.33	48.40	3.22	7.15*
	Adjusted post-test	51.10	48.45		6.19*

group in the pre-test, post-test and adjusted post-test are also presented in Table 1.

The findings of the study showed that there was no significant difference between the pre-test of speed and explosive power. The study revealed that there was a significant difference between the post-test and adjusted post-test of speed and explosive power.

The results of the study have shown that there was a significant difference among specific exercise programme group and control group on speed and explosive power to the past studies on selected psychological variables such as anxiety, aggression and self-depression in accordance with Hannessay and Watson (1994), Wagner and Koack (1997) and Gehri *et al.* (1998).

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