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Effect of Training Programme on Selected Physical Fitness Parameter of Volleyball Players

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ABSTRACT

The purpose of the present study was to find out the effect of 6 week training programme on selected physical fitness parameters of volleyball players. The study was conducted on 25 male national level volleyball players from Sports Authority of India Training Centre, Kurukshetra with age ranged between 18-25 years. The physical fitness parameters selected for testing the hypothesis were namely approach jump reach, block jump reach, standing broad jump, 10X4.5M, 20M and 1500M. Paired't' test was employed for the present study and the level of significance was set at 0.05. The statistical test was computed by using SPSS 17. Analysis of the results indicated that 6 week training programme shows significant difference on physical fitness parameters namely approach jump reach, block jump reach, standing broad jump, 20M and 1500M of volleyball players and only 10X4.5M physical fitness parameters shows no significance difference of training programme on volleyball players.

KEYWORDS Physical Fitness, Training Programme

INTRODUCTION

Physical fitness can be defined as a general state of health and well-being or more specifically as the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest. It is a set of attributes or characteristics seen in people and which relate to the ability to perform a given set of physical activities. Before the industrial revolution, fitness was the capacity to carry out the day's activities without undue fatigue. However with automation and changes in lifestyles physical fitness is now considered a measure of the body's ability to function efficiently and effectively in work and leisure activities, to be healthy, to resist hypokinetic diseases, and to meet emergency situations. It can help to control your weight, lower your risk of heart disease, lower your risk for type 2 diabetes and metabolic syndrome, lower your risk of some cancers, strengthen your bones and muscles, improve your mental health and mood, improve your ability to do daily activities.

Volleyball is a team sport that requires great skill and can be very rewarding when played properly. Certainly considered to be both a competitive and leisurely activity, it can be played by school teams, professional athletes and families enjoying a day at the beach. A workout involving volleyball is an effective way to burn calories. Approximately 20 minutes of volleyball consumes up to 126 calories. Over a twelve month period given 20 minutes of volleyball per day, that would add up to a total of 45,990 calories (or thirteen pounds of body fat) burned per year. Power and height have become vital components of international teams, but the ability of teams and coaches to devise new strategies, tactics and skills has been crucial for continued success. Volleyball thus became more and more a competitive sport with high physical and technical performance. Volleyball also develops key upper body muscles (especially the arms), improves sprint speed and agility due to the quick changes of pace and direction, and improves overall flexibility. Volleyball places a large number of demands on the technical and physical skills of a player. During the course of play, players are required to serve, pass, set, attack, block and dig the ball. Playing volleyball requires flexibility, good balance, upper and lower body strength and speed in order to be played effectively.

The problem for the purpose of the study was stated as "Effect of Training Programme on physical fitness parameters of Volleyball Players" and the study was delimited to Sports Authority of India training centers of Kurukshetra and selected physical fitness parameters. The study was hypothesized that there would be significant effect of training programme on physical fitness parameters of volleyball players.

METHODOLOGY

In order to assess the effect of training programme, the study was conducted on 25 male volleyball players of Sports Authority of India Training Centre, Kurukshetra through purposive sampling with age ranged between 18-25 years and all the selected subjects were national player. On the basis of review of related literature, expert guidance and scholar own understanding the following variables were selected for testing the hypothesis-

Table 1

S.	Test	Criterion Measures
1	Approach Jump Reach	Max. reach with approach run by one hand (Recorded in centimetres)
2	Block Jump Reach	Max. reach without approach run by two hand (Recorded in centimetres)
3	Standing Broad Jump	Max. distance covered recorded in centimetres
4	10X4.5 M Shuttle Run	1/100th of a second
5	20 M Dash	1/100th of a second
6	1500 M Run	Time taken to compete the distance

The training programme was conducted six day a week and the test for the selected variables were administered to the subjects before and after the experimental period of six weeks. Pre test-post test (single group) Random group design was adopted for the present study. To obtain reliable measurements, the instruments used for the study were taken from the Sports Authority of India Training Centre, Kurukshetra. The instruments used for the study were workable condition as per the specification of the manufactures. In order to assess the significant difference of training programme between per test and post test means of selected players, Paired't' test was employed as a statistical technique. To test the hypothesis the level of significance was set at 0.05 and the statistical technique was computed by using SPSS version 17.

RESULTS

In order to assess the 6 week training programme on pre-post test means of the players, the t-ratio were presented in table 1.

Table 2
Significant Difference of Pre-Post Test Means of Volleyball Players

Tests	Pre-test		Post-test		't' ratio
	Mean	SD	Mean	SD	
Approach Jump Reach	336.5	5.27	339.7	4.78	3.18*
Block Jump Reach	318.2	5.32	319.8	4.75	2.93*
Standing Broad Jump	260.9	9.64	264.8	10.64	2.19*
10X4.5 M Shuttle Run	11.6	0.33	11.6	0.40	.34

20 M Dash	3.03	0.08	2.89	0.08	2.95*
1500 M Run	5.57	0.38	5.48	0.41	3.03*

*Significant at 0.05 level
Tab. $t_{0.05}(23) = 1.71$

The table 2 describes the means, standard deviation and mean difference values of selected physical fitness parameters.

It was evident from the table 2 that the t-ratio of approach jump reach, block jump reach, standing broad jump, 20M and 1500M of selected players were found greater than the tabulated value at 0.05 level of significance. Appearance of such results indicates that there were significant difference between the pre-post test comparison of selected physical fitness parameters i.e. Approach jump reach, Block jump reach, Standing broad jump, 20M and 1500M.

It was also evident from the table 2 that t-ratio of 10X4.5M of selected players was less than the required value at 0.05 level of significance and appearance of such result clearly indicate that the pre-post test comparison of selected physical fitness parameters i.e. 10X4.5M does not differ significantly. The graphical representation of pre-post test means value of selected physical fitness parameters were presented in figure 1.

Figure 1

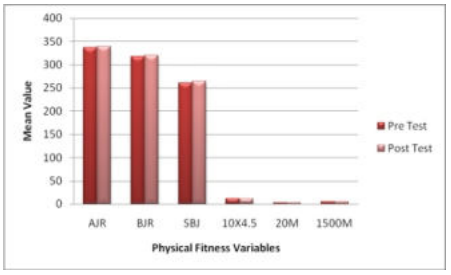

Fig. 1 Pre-post test means of selected Volleyball players

DISCUSSION

The study was conceptualized with the purpose to find out the effect of training programme on physical fitness parameters of volleyball players. Since the game of volleyball has developed into a highly competitive sport which requires a high level of physical fitness. The improvement of these components of physical fitness and sequential maintenance of improvement largely depends upon the selected training methodology and frequency of training. Without physical attributes, it would not be possible for a volleyball player to develop his individual skills. In the competition situation when two teams are on a par technically, it is always the physically stronger that wins. So modern coaching needs multi-dimensional approaches for scientific training to the players because sports performance depends largely on physical fitness and without which sports performance is not possible.

From the above finding, it was revealed that after the 6 weeks training progammme, physical fitness parameters namely approach jump reach, block jump reach, standing broad jump, 20M and 1500M were improved and there was significant effect of training programme. It may cause due to right selection of exercises with well designed training programme. It was also evident that after 6 weeks training progammme was showing no significance difference on the selected physical fitness parameters i.e. 10X4.5M and it clearly indicate that there was no significant effect of training programme. It may cause due to the amount of activities may not be sufficient to improve this parameter, the training programme main aim may not be improve the variable i.e. 10X4.5M rather than maintaining the performance. Finding of the present study was supported by the study conducted by G. Baquet et al (2004), Baquet et al (2001) also conducted the similar study which supported the finding of the present study, the finding was also supported the results obtained in the study conducted by Gabbett et al (2008).

On the basis of the finding and scholar own understanding the hypothesis stated earlier there would be significant effect of training programme on physical fitness parameters of volleyball players was partially accepted and partially rejected.

CONCLUSION

Within the limitations and delimitations of the study, the following conclusion may be drown:

1. The statistical finding showed that there was significant effect of training programme on physical fitness parameters namely approach jump reach, block jump reach, standing broad jump, 20M and 1500M of volleyball players.

2. The statistical finding showed that there was no significant effect of training programme on physical fitness parameter i.e. 10X4.5M

References:

1. Aatson A. W. S., "Physical Fitness and Athletic Performance", Longman, 1983.
2. Baquet G., Berthoin S., Gerbeaux M., Van Praagh E., "High-intensity aerobic training during a 10 week one-hour physical education cycle: effects on physical fitness of adolescents aged 11 to 16" , International Journal of Sports Medicine 2001 May;22(4):295-300.
3. Baquet G., Guinhouya C., Dupont G., Nourry C., Berthoin S., "Effects of a short-term interval training program on physical fitness in prepubertal children" Journal of Strength and Conditioning Resarch. 2004 Nov; 18(4):708-13.
4. Dick Frank w., "Sports Training Principles", Lepus Books, 1980.
5. Gabbett T. J., Johns J., Riemann M., "Performance changes following training in junior rugby league players" Journal of Strength and Conditioning Research 2008 May; 22(3):910-7.
6. Hazeldine Rex, "Fitness for Sports", The Crowood Press, 1985.
7. Williams T., Almond L., and Sparkes A., "Sport and Physical Fitness", Campman and Hall, 1992.
8. http://en.wikipedia.org/wiki/Physical_fitness
9. http://www.fitnesshealth101.com/fitness/general/sports/volleyball
10. https://foh.hhs.gov/calendar/may.html