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Effect of specific skill training with Pilates training on fitness variables of school level volleyball players

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Abstract

The study was to find out the effect of Specific Skill training with Pilate's training on fitness variables of school level volleyball players. To achieve the purpose of this study, thirty players were randomly selected from Sri Ramakrishna Matriculation Higher Secondary School, Coimbatore and their ages were ranged between 13 and 17 years. All the subjects were divided in to two groups with 15 subjects each as experimental (Group-I) and control group (Group-II). Group-I underwent specific skill training with Pilates training for a period of twelve weeks and group-II acted as control who did not participate in any special training other than the routine. The data were collected before and after the training period of 12 weeks and the data collected were statically analyzed by 't' test, which was used to find out the significant improvement on selected parameters and analysis of covariance (ANCOVA) was used to find out the significant difference if any among the post test means of experimental and control group on each parameters separately. The result shows that there was a significant improvement in the agility and leg explosive power.

Keywords: Specific skill training, pilates training, agility, leg explosive power

Introduction

Sport specific training introduces and refines the necessary skill to excel at any sport. Young athlete will feel more confident in their agility, speed and hand/eye coordination. The Sport-Specific Skill Training is a year-round elite level sport specific training experience. Focusing on the physical, technical, tactical and psychological pillars of the sport, the Sport-Specific Skill Training.

Pilates training

Pilates is an exercise program as a core stability approach to augment the neuromuscular system to control and protect the core body or spine. This method is a comprehensive body-mind conditioning, which coordinates core stabilizing exercise with mind and breathe control challenging by flowing movement of the whole body. Since a Pilates approach focuses on core body exercise and breathe control, it facilitates activation of transverses abdomens, diaphragm, multi fidus and pelvic floor muscles. Incorporation of these muscles contributes to stability of the lumbo pelvic region. Pilates exercise has been claimed to be a successful program for health promotion rehabilitation and athletic training.

Pilates is a physical fitness system developed in the early 20th century by Joseph Pilates. It is practiced worldwide, and especially in western countries such as Canada, the United States and the United Kingdom. Pilates was developed by Joseph Pilates, a physical culturist from Monchen glad bach, Germany. His father was a prize-winning gymnast and his mother a naturopath. He studied both Eastern and Western forms of exercise including yoga. During the first half of the twenty the century, he developed a system of exercises which were intended to strengthen the human mind and body. Pilates believed that mental and physical health were interrelated. In his youth he had practiced many of the physical training regimes available in Germany, and it was from these he developed his own work. It has clear connections with the physical culture of the late nineteenth century, such as the use of special apparatuses and claims that the exercises could cure ill health. It is also related to the tradition of "corrective exercise" or "medical gymnastics" as typified by Pehr Henrik Ling. Joseph Pilates, like many Germans, was interned in Britain during World War I.

On the Isle of Man, he started teaching other interned Germans about Pilates. (Joseph Pilates *et al.*, 2009).

Testing Procedure

To evaluate fitness variables, leg explosive power was tested by standing broad jump in meters and agility was tested by shuttle run (4x10m) in seconds. The parameters were measured at baseline and after eight weeks of specific skill training with Pilates training were examined.

Methodology

The purpose of the study was to find out the effects of specific skill training with Pilates training on selected fitness variables of school level volleyball players. Thirty school level volley ball players were randomly selected and their age will be ranged between 13 and 17 years. They were divided into two equal groups of fifteen each. No attempts were made to equate the groups. Experimental group I (n = 15) underwent Specific skill training (SST) with Pilates for a period of twelve weeks, and group II (n = 15) were acted as control group (CG), the subjects in control group were not be given any specific of training program other than their regular activity.

Design

The evaluated physical fitness parameters, leg explosive power was assessed by standing board jump and the unit of

measurement was in meters, shuttle run (4 ×10 m) The parameters were measured at baseline and after twelve weeks of specific skill training with Pilates training were examined.

Training Program

The training program was conducted for 45 minutes for session in a day, 3 days in a week for a period of eight weeks duration. These 45 minutes included 10 minutes warm up, specific skill training with Pilates training practices for 25 minutes and 10 minutes warm down. Every two weeks of training 5% of intensity of load was increased from 65% to 80% of work load. The volume of training prescribed based on the number of sets and repetitions. The equivalent in specific skill training with Pilates training is the length of the time each action in total 3 day per weeks (Monday, Wednesday and Friday).

Statistical Analysis

The collected data before and after training period of 8 weeks on the above said variables due to the effect of specific skill training with Pilate training were statistically analysed with ‘t’ test to find out the significant improvement between pre and post-test. In all cases the criterion for statistical significance was set at 0.05 level of confidence. ($P < 0.05$).

Results

Table 1: The computation of mean, standard deviation and ‘t’ ratio on selected fitness parameters namely agility and leg explosive power of experimental group

Group	Variables		Mean	N	Std. Deviation	Std. Error Mean	t ratio
Experimental Group	Leg Explosive Power	Pre	1.44	15	0.25	0.014	9.93*
		Post	1.58	15	0.24		
	agility	Pre	10.31	15	0.29	0.002	10.80*
		Post	10.28	15	0.29		
Control group	Leg Explosive Power	Post	1.44	15	0.192	0.003	0.71
		Pre	1.43	15	0.193		
	agility	Post	10.90	15	0.74	0.004	1.82
		Pre	10.91	15	0.81		

Table 1 reveals the computation of mean, standard deviation and ‘t’ ratio on selected fitness parameters namely agility and leg explosive power of experimental group. The obtained ‘t’ ratio of leg explosive power agility and were 9.93* and 10.80* respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the obtained ‘t’ values were greater than the table value it was found to be statistically significant.

Further the computation of mean, standard deviation and ‘t’ ratio on selected fitness parameters namely leg explosive power and agility of control group. The obtained ‘t’ ratio on leg explosive power and agility were 0.71 and 1.82 respectively. The required table value was 2.14 for the degrees of freedom 1 and 14 at the 0.05 level of significance. Since the Obtained ‘t’ values were lesser than the table value it was found to be statistically not significant.

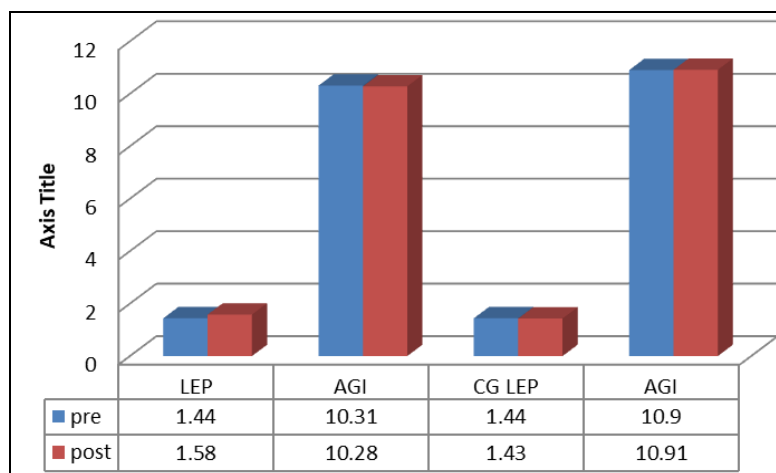


Fig 1: Show the figure of Axis title different of pre-post

Discussion and Findings

The present study experiment the effect of specific skill training with Pilate training on fitness variables of school level volley ball players. The result of the study indicated that the specific skill training with Pilate training improved the fitness variables such as agility and leg explosive power. The findings of the present study had similarity with the findings of the investigations referred in this study. Shaik Meeravali - 2015 investigated the effect of specific training on fitness variables such as speed and agility of school level kho-kho players. He concluded that there was a significant improvement on speed of school level kho-kho players due to the effect of specific training. Preeti-2019 reported that there was a significant improvement takes place on agility of state level badminton players due to Pilate training. Sandipkumar Parekh-(2014) ^[3] reported that there was a significant improvement takes place on agility of volleyball players due to Pilate training. However, there was a significantly changes of subjects in the present study that the agility and leg explosive power were significantly improved in the group may be due to the specific skill training with Pilates training.

Conclusion

- There was a significant improvement takes place on selected fitness variables namely leg explosive power and agility due to the effect of eight weeks specific skill training with Pilates training.
- There was a significant difference exists between experimental and control groups on selected fitness variables such as agility and leg explosive power.

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