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Effect of high intensity training on sprinting speed of soccer players

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Abstract

The present study has been conducted in order to determine the effect of high intensity training on sprinting speed of under-16 age group football players. The participants for the study were twenty one male football players of 15 to 16 years of age, from Bhaichung Bhutia Football Schools. The participants were selected on the basis of purposive sampling technique. The training was given for a period of 8 weeks. After taking a pre- test of sprinting speed, the experimental group was trained up to four days in a week. Training schedule includes short football sprints and small sided games focused over speed as its motor component. The selected variable sprinting speed was assessed on the performance of participants in 30meter sprint and time was recorded as the score. The pre- and post-test were conducted. After the collection of data, paired t- test was used as the statistical tool to assess the data. Data analysis showed the mean of pre-test and post-test scores for group as (4.47sec) and (4.21sec) respectively. The findings of the study indicate marked improvements of high intensity speed work out on sprinting speed of subjects. Significant differences of means in pre-test and post-test were seen as the calculated t value obtained (11.29) was greater than the tabulated t value at 0.05 level of significance.

Keywords: Sprinting speed, high intensity training

Introduction

Sprinting aptitudes of soccer players is happening to key significance as the diversion and the players are turning out to be speedier (Haugen *et al*, 2014; Wallace and Norton, 2014) ^[6] and the measure of sprinting required inside an amusement is perpetually expanding (Andrzejewski, *et al*. 2013; Di Salvo *et al*, 2010). Straight line quickening and sprinting speed is by all accounts more imperative than velocity in alter of course undertakings, Bloomfield (2008) showed that alters of course inside sprinting speeds once in a while happen; rather players will probably be running or rearranging going before braking and alter of course developments. Time movement examinations demonstrate that short sprints happen habitually amid soccer matches. Straight sprinting is the most incessant activity preceding objectives, both for the scoring and helping player. Straight line sprinting speed (both increasing speed and maximal sprinting speed), certain deftness aptitudes and rehashed sprint capacity are appeared to recognize bunches from various execution levels. Proficient players have turned out to be quicker after some time, demonstrating that sprinting abilities are turning out to be increasingly essential in present day soccer.

It is essential for soccer players to have the capacity to split far from the restriction with a specific end goal to claim the ball. A high ability in spilling and ball control is of no utilization to the player on the off chance that they are dependably beaten and are constrained under lock and key. In this manner it is prescribed that mentors ought to center more on sprinting pace of players as opposed to concentrating just on abilities and methods. A study in lieu of giving an efficient and experimental 8 weeks program for enhancing sprinting speed, and to make mindfulness over significance of sprinting velocity on soccer execution.

Objectives of the study

To find out the effect of high intensity training on sprinting speed of soccer players.

Selection of Participants

Twenty one male participants were selected for the study from the Bhaichung Bhutia Football Schools who had participated in national level competitions ranged from 15-16 years of age,

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for the experimental program utilizing the purposive sampling technique. A general medical examination of the subjects was carried out in order to check the fitness of the participants along with the cosent for the ethical clearance.

Selection of Variables

Keeping in mind the feasibility criteria and specific purpose of the study. Sprinting Speed was analyzed by the 30 meter sprint performance and recorded in seconds.

Experimental Design

One group Pre-test and post-test design was employed in this study. The initial test was conducted, followed by 8-weeks of selected training program. After completion of the experimental period, the final test was conducted.

Analysis of Data

In order to find out the effect of high intensity speed training on sprinting speed of soccer players small sample T- test was employed to the study. The level of significance was set at 0.05.

Findings

In order to determine the significance difference pre-test and post-test scores were collected. The initial and final test scores were analyzed using paired T-test. The results of the study are presented in tables and figure for their performance in sprinting speed

Table 1: Descriptive Statistics Showing Mean and Standard Deviation of Sprinting speed

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Pre	21	4.23	4.90	4.47	.172
Post	21	4.03	4.44	4.21	.129

Table 1 reveals that the Mean and Standard Deviation of experimental group in pre-test and post-test are calculated 4.47 ± 0.17 and 4.21 ± 0.12 respectively. For better understanding descriptive data is also shown in the form of a bar diagram below.

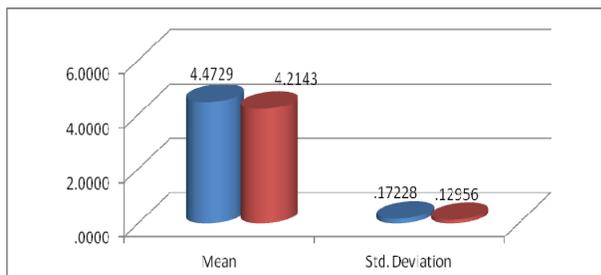


Fig 1: Mean value for Pre-Post-test for High Intensity Speed Training

Table 2: Paired sample t- test for comparison of mean difference on sprinting speed of male soccer players

	Paired Differences			t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean			
pre-post	0.25	0.10	.02	11.29	20	.000

*level of significance = (0.05)

From table no. 2 it is evident that ‘t’ value is 11.29 which is significant at 0.05 with degree of freedom equals to 20. It indicates that the mean scores of high intensity speed training between pre post differ significantly. Thus, the hypothesis stating ‘there is no significant difference in mean scores of high intensity speed training between pre and post is rejected. Therefore, due to the means of the pre-test, post-test sprinting speed and the direction of the t-value, it may be concluded that there was a statistically significant improvement in sprinting speed following the high intensity training program from 4.47 ± 0.17 sec to 4.21 ± 0.12 sec as ($p < 0.0005$).

Conclusions

On the basis of findings of the study, it may be easily concluded that, eight-week high intensity training program is useful to improve the sprinting speed of soccer players. As it is stated in above mentioned studies that, sprinting speed is an important motor component for improvement in performance of soccer playing ability, so implemented high intensity speed training program schedule may be included in training schedule while preparing for tournament.

Discussion on findings

Study shows a significant difference between pre-test and post-test performance in sprinting speed of soccer players. Differences acquired by soccer players were due to their systematically and scientifically planned high intensity training schedule, which includes various sprinting events and few lead up activities which looks like a recreational activity but, directly focuses on development of sprinting speed. Adaptation is nature of human beings, as they undergone speed training their body gets adapted to improved sprinting ability and which was seen as the difference in their sprinting speed of pre-test and post-test data.

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