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EFFECT OF HIGH INTENSITY ENDURANCE EXERCISE ON AGILITY AND EXPLOSIVESTRENGTH OF SOCCER PLAYERS

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ABSTRACT

The purpose of the study was to know the effect of High intensity exercise endurance on Agility and explosive leg strength of soccer players. Total 28 male school level players (13 from each experimental and 14 control group) ranges from 16 to 18 years were selected from the Mann school. Leg explosive strength was measured by standing broad jump and agility was measured by shuttle run test. To know the effect of HIEE on Agility and Leg explosive strength among school male player (ANCOVA) was used, the level of significance was set at 0.05. Result showed that there were significant differences found on agility and leg explosive strength.

Keywords: Standing Broad Jump, Shuttle Run, Sprint, HIEE and Explosive Strength.

INTRODUCTION

As football games rely on anaerobic metabolism usually require high power outputs or the repetitive performance of high velocity movements. As HIEE does not reduce maximal strength and power development is that HIEE training trends to increase Type II Muscle fiber content. Muscular strength and power generating capacity are critical factors in determining success in a wide variety of sports. Muscular strength and power are generally acknowledged as being important in all team sports and sports that are dominated in speed.

There are mainly three types of strength that are maximum strength, strength endurance and explosive strength. Explosive strength can be defined as the ability to overcome resistance with higher speed. It is a combination of strength and speed abilities (Hardyal, 1991).Explosive strength and Agility is one of dominating motor component in Football. Sprinting speed is very important, but soccer isn't a track meet. It's not a linear game, and elite soccer players have great agility in addition to blazing straight-ahead speed. Agility can be divided into two key components quickness and change of direction.

HIEE training is not only develop the anaerobic capacity but equally it increase the aerobic capacity of individual as it is typically rely on LIEE.

METHODOLOGY

24 male subjects (14 from each experimental and control group) ranging from 16 to 18 years of age were purposely selected from the Mann school, Delhi, All the boys were school level player. All subjects were in good health condition, participating in consistent soccer training from 3 years. After the regular training program the experimental groups have to perform High intensity exercise endurance training for 15 min in which they go for 100 meter sprint for 5 repetitions without complete recovery for 6 weeks.

Variables: Selected HIEE training is independent variable and explosive strength (leg) and agility was considered as dependent variable.

Test for explosive strength: standing broad jump was used and for agility: shuttle run test was taken.

Shuttle run test: This test requires the person to run back and forth between two parallel lines as fast as possible. Set up two lines of cones 30 feet apart or use line markings, and place two blocks of wood or a similar object behind one of the lines-Starting at the line opposite the blocks, on the signal "Ready? Go!" the participant runs to the other line, picks up a block and returns to place it behind the starting line, then returns to pick up the second block, then runs with it back across the line.

Standing broad jump: The subject was asked to stand behind the line with feet parallel to each other. The subject was instructed to jump as farthest as possible by bending knees and swinging arms to take off for the broad jump in forward direction. Three trails were given and the best trail was considered final score. Score was measured in meters.

RESULTS

TABLE 1
TESTS OF BETWEEN-SUBJECTS EFFECTS

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	15.07	2	7.538	44.28	.000	.787
Intercept	4.74	1	4.745	27.87	.000	.537
Agility	10.80	1	10.800	63.44	.000	.726
Group	1.23	1	1.235	7.25	.013	.232
Error	4.08	24	.170			
Total	4038.81	27				
Corrected Total	19.162	26				

a. R Squared = .787 (Adjusted R Squared = .769)

Table number 1 is an analysis of variance table. Each term in the model, plus the model as a whole, is tested for its ability to account for variation in the dependent variable. The significance value for each term is less than 0.05. Therefore each term is statistically significant.

TABLE 2
TESTS OF BETWEEN-SUBJECTS EFFECTS

Source	Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.836	2	.418	58.628	.000	.830
Intercept	.049	1	.049	6.863	.015	.222
SBJ	.824	1	.824	115.52	.000	.828
Group	.042	1	.042	5.83	.024	.195
Error	.171	24	.007			
Total	130.06	27				
Corrected Total	1.007	26				

a. R Squared = .830 (Adjusted R Squared = .816)

Table number 2 is an analysis of variance table. Each term in the model, plus the model as a whole, is tested for its ability to account for variation in the dependent variable. The significance value for each term is less than 0.05. Therefore each term is statistically significant.

DISCUSSION AND FINDINGS

All though low intensity exercise endurance is the base for adapting further variations in training but these LIEE training have a limited effect on the development of power in muscles as well as agility among the soccer player, as soccer game its self-need lots of power in the form of muscles responses for faster rate. Therefore, high Intensity exercise endurance will help the players to adapt the nature of motor development as fast as possible but it always recommended that before going to HIEE training the trainee should well adapt the strengthening program so that it can produce the power on demand. And it will improve the result automatically by enhancing the performance. The purpose of the study was to

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check the effect of HIEE training on explosive strength and agility of soccer players. The finding of study revealed that there were significance difference found in Agility and explosive strength (leg) of soccer players. So therefore coaches should emphasis on HIEE Training rather than depending on LIEE training.

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