

To Investigate Effect of Training Peculiar to Football Applied 10-12 Age Children on Sport Motoric Features and Skill

Umut HAMIZOĞLU [1], Emrah ATAY [2]

[1], Süleyman Demirel University, Faculty of Health Sciences, Department of Sport Sciences/Isparta

[2] Mehmet Akif Ersoy University, School of Physical Education and Sports/ Burdur

ABSTRACT

The aim of this study was to determine effect of 12-weeks training program which was made peculiar to football on sport motoric features and skill in 10-12 age children. 16 boys who mean ages are 11.06 ± 0.77 years, and take part in Isparta Naside Halil Gelendost Primary School football team, were joined in research. Training program peculiar to football was applied to children during 12 weeks as 3 days in a week. In every training which nearly continuous 90 minutes, warm-up and cool down exercise, workouts aimed to develop main motorik features, workouts developing technical and coordination peculiar to football were made. To determine effects of training; shuttle, push-up, vertical jump, flexibility, 30 m speed, slalom with ball, ball skipping with head and foot tests were applied before and after study. Descriptive statistics and Wilcoxon bilateral relation was used analyze of data obtained in SPSS 15.0 for Windows packet program. It was determined that there was no significant change in body weight value of children after training program peculiar to football which was applied during 12 weeks ($p > 0,05$). Opposite to this, when it was compared to pre-test values, it was established that there was development at significant level in 30 m speed running, vertical jump, shuttle, push-up, flexibility, ball skipping with foot, ball skipping with head and slalom with ball performances of children ($p < 0,05$). As a result, it can be said that training programs peculiar to football which was made systemic and long-term contribute development of biomotoric features and skill peculiar to football in children.

Keywords: *Football, training, skill, sport motorik features*

INTRODUCTION

Football is a popular sport branch which is played between two team-eleven each individuals at an rectangle shaped field and aimed to score a goal to rival castle by using head, foot and other parts of body, except hands and arms (Eniseler 1994).

If we evaluate football in terms of physiological; football is a sport discipline with high level that aerobic and anaerobic power values are used together, factors as force, speed, endurance, mobility, flexibility and coordination from biomotoric features effects performance together. In addition to technique and tactic in football which based on such sophisticated performance efficiency for success, anthropometric, biomotoric and psycho-motor features carry weight (Polat 1996).

In football game which is team sport, besides various psychological, intellectual (mental), physiologic and technique-tactic development, it is required that development of main biomotoric features (Eniseler ve ark. 1996).

Trainings peculiar to football improve main motorik components as force, endurance, speed, flexibility and coordination, besides skill development. This development stages differ according as features of sport branch, training

content, intensity and shape but this components is come into prominence at different weight interaction with each other (Eniseler ve ark. 1996).

Success in football is complex result of a lot factor as structural features of players, biomotoric features, technique and motivation level, be capable of tactical skills by deciding a correct decision at suitable and time at quick changing circumstances (iri 2009).

With this study, it was aimed that to determine effect of 12-weeks training program peculiar to football on physical, biomotoric and technique features in children.

MATERIAL AND METHOD

Experiment Group of Research

16 boys, who mean age is 11.06 ± 0.77 years, mean height is 149.62 ± 6.58 cm, mean body weight is 41.25 ± 8.12 kg and take education at Isparta Naside Halil Gelendost Primary School, were joined in research.

Training Program

Main skill and condition trainings peculiar to football were applied to children joined research 3 days as Monday, Wednesday and Friday in a week during 12 weeks. All training was started with 20-minutes warm-up stage and in the trainings stretching, speed and way switch running, flexibility, coordination, shuttle, push-up and workouts aimed to develop some technique and tactics features peculiar to football were given place. Cool down exercise comprised of active and passive stretching exercises were applied to participants after committed every training.

Height and Body Weight Measurement

Heights of athletes were measured in terms of cm with height scale having 0.01m sensibility as bare foot. Body weights were measured from kg type with electronic weighing machine having 0.05kg sensibility while athletes wore short and t-shirt and barefoot.

Flexibility Measurement

Flexibility measurement of athletes were made with sit and reach test and sit and reach trestle was used for test (Tamer 2000). Length of test trestle is 35 cm, width 45 cm and height 32 cm. Surface layer length of trestle is 45 cm, width 45 cm. Surface layer is out of 15 cm of surface that foot leaned. 0-50-cm measurement ruler is determined with 5-cm parallel line intervals on the surface layer. Children sat down place and they based test trestle their base of barefoot. Bending forward, they pushed the ruler forward by reaching front in manner that hands will be in front of body by no twisting knees. They stay in furthest point as 1-2 seconds by no flexing front or back. Test was repeated two times and maximum value was recorded (Saygin ve etc. 2005).

Aerobic Endurance Test

Cooper test were applied for measurement of endurance. Generally Cooper test is made in a 400-meters running field. When athleticism field cannot provide, it should be careful that test distance is least 200 meters. Together with command athletes begin to running in the determined field. Running speed is depended on athlete. Athletes complete test if he/she wants a slow running speed or in a fast running speed. Also, if athletes cannot continue the running during test period, he/she can complete test by walking. Every running lap that athletes traverse was recorded. The test was terminated by commanding again after 12 minutes was finished and running distances of athletes were recorded by computing. In test end, distance was recorded type "m" and MAXVO₂ was computed with below formula (Tamer 2000).

$$\text{MAXVO}_2 = 33,3 + (M - 150) * 0.178 (\text{ml/kg/min}) \quad M = \text{Running distance in 1 minute}$$

Anaerobic Power Test

Anaerobic power measurements were made with vertical jump test. It was wanted that athletes stand in front of measurement board as foot is next to and body is erect, and it was said that athletes' finger tips extend to maximum point while their foot sole was touch on the place in manner their two arms was tense, and it was marked that they reached to latest point in this position. Later, it was wanted that they return to board as 90 degrees side and get down in place which they exist and then they touch their hand ,which is side of board, on board by maximally jumping to upwards. Distance between point marked before jumping and last point was established. Vertical jump distance was

recorded in terms of cm. Athletes' fingers were submerged to chalk dust to make distinctive measurement. Two trials were made and best degree was recorded to result. Results were computed as Lewis formula (Tamer 2000).

$$\text{Anaerobic Endurance} = \sqrt{4,9 * (\text{Body Weight}) * VV} \quad (V = \text{Vertical Jump Distance})$$

Shuttle and Push-Up Tests

In shuttle and push-up test, it was wanted that athletes make shuttle and push-up as they could be. Shuttle and push-up counts by athletes were recorded as piece.

Slalom Test with Football Ball

In slalom test, it was wanted that athletes pass through 10 obstacles which there are 1,5m distance between their in 16,5m distance. Results were recorded in terms of second.

Ball Skipping

In ball skipping test, it was wanted that athletes bounce football ball with their foot within 1,80m caliber circle. Three rights were given to athletes. In each right, ball skipping number, that athletes made by no going out of circle and no dropping to place, was recorded. It was recorded as piece how much times subject, who used each three rights, bounce the ball. Same stage was applied for ball skipping on head.

30m Speed Running Test

In 30 meters running test, 30m distance was determined on the smooth pavement ground. Test was started after 5-min warm-up running and stretching stage. Starts were made by no commanding when athletes felt ready themselves. Test values were measured by using Casio brand hand timekeeper. Athletes made same running two times with 3-min intervals and best degree was recorded in terms of sec.

Statistical Analyze

Data obtained from study was evaluated in SPSS 18.0 for Windows packet program. Arithmetic mean (X), Standard Deviation (SD), Maximum and Minimum values of measurement results, which used in study, were established. Difference between pre-test and re-test was looked with Paired Sample T test. It was accepted that confidence bounds as %95 and meaningfulness level as $p > 0,05$.

RESULTS

Table 1. To compare means of pre-test/re-test relating to age and body weight values of children who joined in research

Variable	Pre-Test					Re-Test				t	p
	N	X	Sd	Min	Max	X	Sd	Min	Max		
Age (years)	16	11,0 ₆	0,7	10	12	11,0 ₆	0,7	10	12	-	-
Body Weight (kg)	16	41,2	8,12	29	56	41,8	7,3	30	54	-1,6	0,12

It was found that pre-test and re-test age mean $11,06 \pm 0,7$ years, pre-test body weight mean $41,2 \pm 8,12$ kg, re-test body weight mean $41,8 \pm 7,3$ kg of children who joined in research. It was found that there was no statistically significant difference between pre-re test age mean and pre-re test body weight mean of children joined research ($p > 0,05$).

Table 2. To compare pre-test/re-test values of selected biomotoric features with some motion of children who joined in research

Variable	Pre-Test					Re-Test				t	p
	N	X	Sd	Min	Max	X	Sd	Min	Max		
Anaerobic (kgm/sec)	16	27,2	5,83	14,0	35	32,9	6,7	18,0	42	-9,0	0,00*
Aerobic (kgm/sec)	16	31,5	6,66	20,0	41	37,2	7,0	25,0	47	-9,1	0,00*
Shuttle (piece)	16	24,1	3,61	18,0	30,0	29,6	4,4	22,0	37,0	-8,5	0,00*
Push-up (piece)	16	21,1	3,33	16,0	31,0	27,8 7	5,08	21,0	39,0	- 9,13	0,00*
30 meters (sec)	16	5,5	0,40	5,1	6,4	5,35	0,38	4,98	6,18	11,7 4	0,00*
Flexibility (cm)	16	19,6	5,6	11,0	33,0	24,3	4,89	16,0	36,0	- 7,07	0,00*
Slalom (sec)	16	9,93	1,8	8,1	15,8	8,8	1,41	7,23	13,2	7,3	0,00*
Ball skipping on head (piece)	16	8,0	3,6	5,0	19,0	11,6	4,17	8,00	25,0	- 10,9	0,00*
Ball skipping on foot (piece)	16	37,5	35,0	7,0	133	62,5	55,0	21,0	236	-4,4	0,00*

*p<0,05

When Table 2 was examined; it was found that pre-test anaerobic power value mean $27,2 \pm 5,83$ kgm/sec, as to re-test mean $32,9 \pm 6,7$ kgm/sec, pre-test aerobic power value mean $31,5 \pm 6,66$ kgm/sec, as to re-test mean $24,1 \pm 3,61$ kgm/sec, pre-test shuttle number mean $24,1 \pm 3,61$ pieces, as to re-test mean $29,6 \pm 7,0$ pieces, pre-test push-up mean $21,1 \pm 3,33$ pieces, as to re-test mean $27,87 \pm 5,08$ pieces, pre-test 30 meters speed mean $5,5 \pm 0,40$ sec, as to re-test $5,35 \pm 0,38$ sec, pre-test flexibility mean $19,6 \pm 5,6$ cm, as to re-test $24,3 \pm 4,89$ cm of children joined in research. It was found that pre-test slalom mean $9,93 \pm 1,8$ sec, as to re-test $8,8 \pm 1,41$ sec, pre-test ball skipping on head number $8,0 \pm 3,8$ pieces, as to re-test $11,6 \pm 4,17$ pieces, pre-test ball skipping on foot number $37,5 \pm 35$ pieces, as to re-test $62,5 \pm 55,0$ pieces of children joined in research. According to measurement data obtained from children joined in research, it was found that there was statistically significant difference between pre-test and re-test mean of all motoric features ($p < 0,05$)

DISCUSSION AND CONCLUSION

In our study; No significant difference was not revealed in body weight values of children joined in football training as 3 days in a week during 12 weeks. But, it was reported that trainings and exercise programs, applied to children, generated decline in body weight in a lot of study appeared in literature (Gökdemir and Koç 2000; Kurşunel and etc. 2010; Watts and etc. 2003). There was no parallelism between that studies and our study. This case may be originated that training and exercise procedures which was used in researches were different from each other. Besides,

in literature, there are studies which are parallelism with results of our study (İri and Eker 2008).

It was determined that there was an increase at significant level in shuttle and push-up values of children, joined in research, in the end of training program. It was established that there is correct proportion between force development and sportive activities in children and young who is adolescence (Muratlı, 2003). In a similar study, regularly force training was applied to girls and boys as 1-2 days in a week. It was monitored that there was an increase of force at significant level in the end of study (Faigenbaum and etc. 2002). Thereby, it can be said that force workouts, which is appeared within of exercise program applied to children, positively effect force development in children.

In the end of study, it was established that there was an increase at significant level in aerobic and anaerobic power of children joined in research. In a similar study, it was monitored that increases at significant level was revealed in anaerobic and aerobic power values of children who were joined in football preparative training 10-weeks

In a study made by Rotstein and etc (1986), they had applied 9-weeks interval training program to 28 children in 10-11 age group and in the end of study they had monitored an increase at %10 ration in anaerobic capacity of subjects. Researches, was made, show that anaerobic power and capacities of children who joined in sport activity and had high physical activity level are more than their equals who don't active (Koşar and etc. 2004).

Ağar (2006) established that skipping rope and interval running exercises, which were made with 30-sec loads in 9-11 age group boys as 3 days in a week during 6 weeks, develop anaerobic power and capacities of children in manner a statistically significant. Similarly, Dupont and etc (2004) monitored that high intensity interval training increase anaerobic performance.

In our study, it was determined that there was development at significant level in 30 speed performances of children joined in research. Muratlı (2007) pointed that speed feature is developed when coordinative education is activated. Also, he expressed that development of speed feature is related to features as quick power, movement width and skills of muscle relaxation.

As Fetz (1982), action speed depending on maturation shows same development in girl and boy children until puberty period. Speed development is increased constantly and performance diversity between genders is hardly emerged. Also, studies, were made, emerged that speed skill is paused in girls in same period while speed skill is continued in puberty (Translated; Muratlı and etc. 2007).

When pre/re-test flexibility values of children joined in our study was examined, it was established that there was an increase at significant level in flexibility values of children. Flexibility carry weight that to make a wide angle movement skill, to perfect coordination skill and to prevent injuries for football player. Optimum period in terms of shape of flexibility is between 10-13 ages. Flexibility workouts largely provide benefit ankle, waist and hip (Karatosun 1993). Thereby, flexibility must be a part of daily training and it should be applied every training (Kuvvetli and Müniroğlu 1998).

In result of tests, it was determined that ball skipping on head and on foot values in children, joined in research, was developed at significant level. Whether period, that tendency to football and learn to football of children is simplest and efficient, period between 10-14 age, grasp and locate of skills, which taught in this ages, is simpler and especially in technique practice can be more willing. Therefore, in case of how much good dribbling, ball receiving and using technique of children in this ages, ball control and technique skills is so much good in the progressive times (Şalap 1996).

Movements as shifts, sudden speed-up and stand, jumping, a lot of movement of goalkeepers, foot strikes in football are related to anaerobic energy process (Polat 1996). Therefore, speed and speed-up (acceleration) in skills peculiar to football as speeding shift, and speed increment can be developed by increasing contraction power skill of related muscle and muscle groups (Wisloff and etc. 1998).

In a study that main technique abilities of football players of school teams, which are placed in teeny, star and junior, were compared, Mülazımoğlu and etc. (2002) established that means of dribbling, pass, shot, ball skipping and fast pass on the wall test of football players, who was first, are higher than football players of team, who was second, at significant level (Mülazımoğlu and etc. 2002). As to another study, while it was established that there was significant difference in the ball skipping and ball skipping on head tests among age groups, it was declared that there was no significant difference in other four test batteries (Malina and etc 2005).

As a result; it was established that physical, motoric and technique features of children were developed with trainings peculiar to football which was applied during 12 week. It must not forget that football is a game that both technique and tactic as well as conditional features are in the foreground. Therefore, it is required that background trainings relating to both technique and tactic as well as conditional features should be made.

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