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EXPLOSIVE FORCE DEVELOPMENT IN FOOTBALL PLAYERS 12-13 YEARS OF AGE

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Abstract

The paper aims to apply some workouts for Improving the explosive force, to observe how the techniques have evolved some indices over 4 months at a group of children aged 12.5 years footballers. We want to see how the workouts containing exercises for improved explosive force may improve physical indices at this age. Also believe that improving the physical parameters in football can be done by developing specific training for explosive strength.

Hypothesis

We believe that based on specific training to improve explosive strength indices can significantly increase the level of physical football to a group of 12-13 years.

Methods

The experiment was conducted in a group of children born in 1998. Group selection was made in 2008, and the children an experience of over 600 training. In this experiment, 18 players have participated (experimental group). Throughout the period of the experiment in January 2011 - April 2011 were conducted two training sessions each week that contained specific exercises to develop explosive force.

Conclusions

After applying the football training drills to improve explosive strength of soccer players aged 12-13 years, we found an improvement in the physical indices. Therefore propose that the football training these exercises are introduced to improve the physical indices that age group.

Keywords: children, football explosive force, physical indices.

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Introduction

For V. Zaţiorschi (1968) is based on explosive force "time for the force to increase to half its maximum value." Some authors define as the ability to show maximum values of force in the smallest unit of time, and believes that it has an important role in obtaining performance-based sports acyclic movements. C. Bosco (1995) states that explosive strength is the ability of muscle to develop high degrees of force in very little time.

The main condition for sports performance is strength training. In this sense we can say that power determines the speed of movements, speed of the player, the intensity with which the ball is hit. Insufficient force correct execution delay, accelerate fatigue and affect the accuracy gestures (G. Stanculescu, I. Melenco, 2003). Hitting the ball with the foot is apparently a natural momentum that even non-specialized individuals, and it hardly repress (I. Ionescu, 1995; V. Stanculescu, 1999). Precision strikes or passes depends on the surface of contact between foot and ball. It will be even greater as this area is higher (P. Luhtanen, 1989). Correlation of football revealed the technical and physical training of the current is given by the increasing physical load that is the game that requires skill, technical capabilities to achieve a speed-strength-increasing force (C. Ferrante, 2000). At a high volume of sophisticated technical means, trends and increase tactical solutions. A mental condition of the technical action gives the stringent requirement of actual football, so the game speed. Attitude and speed that trend there are psychological element (I. Ionescu, 1995).

Hypothesis

We believe that if we apply in specific training programs to explosive strength and technology base will significantly increase the level of physical indicators and techniques to a group of players 12-13ani.

Methods

The experiment took place at Middlesbrough Football Club in the group of children aged 12.5 years. Children have over 600 active sessions. This experiment involved 18 players (experimental group). Throughout the period of the experiment in January 2011 - July 2011, were made by four specific training week.

Mentioned that training took place outdoors on the ground covered and the running track. During the conduct of research, to observe the evolution of athletes and veracity of the proposed exercises to explosive strength of legs and technique, athletes were tested both in initial testing, intermediate and final the following parameters: explosive force sqoat jump, counter movement jump, Standing Long Jump, technical (maintenance ball across the pitch with a fixed, flat area with lace Shot) the training I used:

Exercises for developing explosive strength. Were performed in two workouts a week. (15 minutes / training);

- squat-jumps of thrust-jumps;
-jumps on two legs with different number of jumps;
-jumping over various obstacles on two legs; successive leg-jumping;
-jumps on two legs performed on stage; successive leg-jumps performed on stage;

-jumping separation performed on stage with alternative change legs.
Exercises to develop technique. Were performed in four workouts a week. (40-50 minutes / training);
- Exercises to develop coordination, 10-15 min. / training;
- The governance of the ball by foot (5-10min. training)
- Ways to improve the sense and ball control, (5 minutes each workout)
- Hitting the ball across (10-15 min / coach)
- Taking the ball (10-15 minutes / coach)
- Games with few players (3 for 3, 4 against 4, 5 against 5) on small plots.

All these exercises were included in the specific structure of exercises aimed at improving the physical and technical indicators, in this case technical strength and explosive football player. If I followed the technical exercises exercises to be executed with speed and precision.

Table No. 1 Initial Testing - Explosive Force

Nr.	**Name**	sqoat jump		contra movement jump		Standing long jump
		Mb	Ml	Mb	Ml	
1	**E. C.**	356	379	313	338	204
2	**G. A.**	330	404	346	424	203
3	**R. V.**	308	363	365	397	208
4	**M. C.**	333	354	309	417	201
5	**A. A.**	332	443	310	394	203
6	**S. C.**	310	320	330	350	193
7	**T. O.**	430	520	410	500	210
8	**P. M.**	337	390	272	379	203
9	**N. D.**	337	365	281	380	196
10	**C. A.**	246	315	278	293	170
11	**Z. M.**	311	359	264	324	176
12	**M. A.**	252	286	250	300	193
13	**C. D.**	248	267	291	297	171
14	**B. C.**	304	296	319	359	185
15	**G. C.**	318	404	298	378	190
16	**B. D.**	235	326	254	300	179
17	**D. R.**	280	323	334	386	204
18	**L. D.**	313	366	255	311	171
	X+ DS	**310+ 46,86**	**360+ 60,44**	**304,38+42,36**	**362,61+54,79**	**192,22+ 13,66**
	CV	15,11	16,78	13,91	15,11	7,10

Table No. 2 Test Intermediate Explosive Force

Nr	**Name**	sqoat jump		contra movement		Standing long j
		Mb	Ml	Mb	Ml	
1	**E. C.**	407	461	376	420	208
2	**G. A.**	343	421	346	408	202
3	**R. V.**	348	411	364	367	215
4	**M. C.**	323	401	386	403	223
5	**A. A.**	384	370	356	414	215
6	**S. C.**	318	350	355	376	197
7	**T. O.**	444	524	424	521	235
8	**P. M.**	340	397	292	387	210
9	**N. D.**	350	372	379	437	206
10	**C. A.**	382	420	319	484	158
11	**Z. M.**	264	302	255	297	170

12	**M. A.**	263	296	252	302	198
13	**C. D.**	304	348	278	340	165
14	**B. C.**	340	375	339	390	180
15	**G. C.**	308	355	326	350	180
16	**B. D.**	265	344	264	298	172
17	**D. R.**	305	356	346	401	208
18	**L. D.**	329	374	270	318	175
	X+ DS	**333,05+48,84**	**382,05+54,22**	**329,27+50,57**	**384,05+61,61**	**195,38+ 21,96**
	CV	14,66	14,19	15,35	16,04	11,24
	t initial	**2,52**	**1,92**	**3,52**	**1,75**	1,32
	p	0,025	0,05	0,005	0,05	

Table No. 3 Final Testing - Explosive Force

Nr.	**Name**	sqoat jump		contra movement		Standin
1		Mb	Ml	Mb	Ml	
2	**E. C.**	361	480	361	478	214
3	**G. A.**	365	414	374	433	202
4	**R. V.**	360	421	354	386	208
5	**M. C.**	329	435	342	375	226
6	**A. A.**	342	420	360	427	228
7	**S. C.**	330	377	362	393	202
8	**T. O.**	433	555	415	559	220
9	**P. M.**	343	407	299	411	213
10	**N. D.**	354	411	352	380	195
11	**C. A.**	337	355	292	338	180
12	**Z. M.**	245	344	266	333	175
13	**M. A.**	288	330	277	332	202
14	**C. D.**	315	376	298	374	170
15	**B. C.**	354	387	377	408	184
16	**G. C.**	321	381	346	382	184
17	**B. D.**	270	352	270	304	175
18	**D. R.**	338	376	354	360	200
	L. D.	290	354	310	372	184
	X+ DS	**331,94+41,79**	**398,61+53,69**	**333,83+42,26**	**391,38+58,84**	**197,88+18,09**
	CV	12,59	13,53	12,65	15,03	9,14
	t init.	**2,57**	**3,97**	**5,64**	**2,90**	**2,58**
	p	0,025	0,0005	0,0005	0,005	0,01
	t inter.	0,18	**2,62**	0,83	0,63	1,22
	p		0,01			

Technical parameters
Table no. 4 Initial Testing

No	**Name**	Keeping the ball no. repetitions in 60	Step-across fixed area	Shot with lace fixed area
1	**E. C.**	60	5	6
2	**G. A.**	54	4	6
3	**R. V.**	63	5	6

4	**M. C.**	54	4	6
5	**A. A.**	45	4	5
6	**S. C.**	43	4	5
7	**T. O.**	39	4	5
8	**P. M.**	33	3	5
9	**N. D.**	80	6	6
10	**C. A.**	78	6	5
11	**Z. M.**	67	4	4
12	**M. A.**	68	4	4
13	**C. D.**	45	4	3
14	**B. C.**	44	3	3
15	**G. C.**	41	4	3
16	**B. D.**	42	3	3
17	**D. R.**	81	6	6
18	**L. D.**	77	5	5
	X+ DS	**56,33+15,82**	**4,33+0,97**	**4,77+1,16**
	CV	**28,08**	**22,38**	**24,40**

Technical Parameter
Table No. 5 Intermediate testing

No	**Name**	Keeping the ball no. repetitions in 60	Step-across fixed area	Shot with lace fixed area
1	**E. C.**	85	7	7
2	**G. A.**	70	6	6
3	**R. V.**	83	7	7
4	**M. C.**	77	6	6
5	**A. A.**	80	5	6
6	**S. C.**	78	5	5
7	**T. O.**	56	5	5
8	**P. M.**	39	5	5
9	**N. D.**	100	7	6
10	**C. A.**	95	7	6
11	**Z. M.**	77	5	5
12	**M. A.**	78	6	4
13	**C. D.**	55	5	4
14	**B. C.**	53	5	5
15	**G. C.**	54	5	4
16	**B. D.**	55	4	4
17	**D. R.**	105	7	7
18	**L. D.**	85	6	6
	X+ DS	**73,61+18,17**	**5,72+0,95**	**5,44+1,04**
	CV	**24,68**	**16,74**	**19,14**
	t	**8,51 ***	**11,74 ***	**4,76 ***
	p	**0,0005**	**0,0005**	**0,0005**

Technical Parameters
Table No. 6 Final Test

No	**Name**	Keeping the ball no. repetitions in	Step-across fixed area	Shot with lace fixed area

		60		
1	**E. C.**	110	8	7
2	**G. A.**	80	6	6
3	**R. V.**	88	7	7
4	**M. C.**	85	7	6
5	**A. A.**	106	7	7
6	**S. C.**	88	6	7
7	**T. O.**	63	6	5
8	**P. M.**	42	6	5
9	**N. D.**	120	8	7
10	**C. A.**	117	8	7
11	**Z. M.**	85	7	6
12	**M. A.**	84	6	7
13	**C. D.**	64	6	5
14	**B. C.**	61	7	6
15	**G. C.**	65	6	6
16	**B. D.**	75	6	6
17	**D. R.**	120	8	7
18	**L. D.**	90	7	7
	X±	**85,72±22,29**	**6,77±0,80**	**6,33±0,76**
	CV	**26,00**	**11,92**	**12,11**
	t inter	**7,03 ***	**7,00 ***	**4,18 ***
	p	**0,0005**	**0,0005**	**0,0005**
	t iniţ	**8,91 ****	**16,84 ****	**6,01 ****
	p	**0,0005**	**0,0005**	**0,0005**

Discussions

Tests explosive force to jump squat hands basin (Table no. 2), as shown in the table. 2, calculating the statistical average performance of the initial and intermediate testing, shows a value of "t" of 2.52 (significant, p <0.025). Statistical calculation of average performance of the initial and final testing, shows a value of "t" of 2.57 (significant, p <0.025). In terms of media obtained from intermediate and final testing we see that the value of t is statistically insignificant 0.18, p <0.05. The counter movement jump hands on the basin (Table no. 2), as shown in the table. 2, calculating the statistical average performance of the initial and intermediate testing, shows a value of "t" of 3.52 (significant, p <0.005). Statistical calculation of average performance of the initial and intermediate testing, shows a value of "t" of 5.64 (significant, p <0.0005). In terms of media obtained from intermediate and final testing we see that the value of t is 0.83 (insignificant, p> 0.05).

The counter movement jump free hand as shown in the table. 2, statistical calculation of the average performance of the initial and intermediate testing, shows a value of "t" of 1.75 (significant, p <0.05). Statistical calculation of average performance of the initial and intermediate testing, shows a value of "t" of 2.90 (significant, p <0.005). In terms of media obtained from intermediate and final testing we see that the value of t is 0.63 (insignificant, p> 0.05). Analyzing the coefficient of variability values that are between 10 and 20%, we can say that the two samples we have an average homogeneity of the results obtained by the subjects. Standing long jump to statistically calculate the average performance of the initial and intermediate testing shows a value of "t" 1.32 (not statistically significant, p> 0.05). Analyzing the coefficient of variability values that are between 10 and 20%, we can say that this evidence, we have an average homogeneity of the results obtained by the subjects. Statistical calculation of average performance of the initial and intermediate testing, shows a value of "t" of 2.58 (statistically significant, p <0.01).

In terms of media obtained from intermediate and final testing we see that the value of t is 1.22 (not statistically significant, p> 0.05) (table no. 3) Analyzing the coefficient of variation, which is 9.14 we can say that this sample we have a great homogeneity of the results obtained by the subjects. In the sample keeping the ball, look at the table no. 5 shows a significant improvement between initial testing and testing of intermediate (t = 8.51, p <0.0005). Comparing the results obtained by the

subjects between the initial and final testing we noted that "t" has a value of 8.91, p <0.0005, which shows significant progress between the two tests. Also, if we compare the results between the intermediate and final testing we see that the value of t of 7.03 indicates a statistically significant difference at p <0.0005, thus obtaining subjects significantly better at final testing. Coefficient of variability values over 20% shows a small homogeneity of the results obtained by subjects in all tests. The test sample of step with fixed across the area, look at the table no. 5 shows a significant improvement between initial testing and testing of intermediate (t = 11.74, p <0.0005). Coefficient of variation values of 22.38 in initial testing shows a small homogeneity of the results obtained by the subjects. Coefficient of variation values of 16.74%, shows a mean homogeneity results by testing subjects in between. Comparing the results obtained by the subjects between the initial and final testing we noted that "t" has a value of 16.84, p <0.00005, which shows significant progress between the two tests. Also, if we compare the results between the intermediate and final testing of t we see that the value of 7.00 indicates a statistically significant difference at p <0.005, subjects thus achieving significantly better results in final testing. Coefficient of variation values of 11.92%, shows a homogeneous average results achieved by the final test subjects. The test sample shot with lace in fixed area, look at the table no. 5 shows a significant improvement between initial testing and testing of intermediate (t = 4.76, p <0.0005). Coefficient of variation values of 24.40 in our initial testing indicates a lack of homogeneity of results obtained by the subjects. Coefficient of variation values of 19.14%, shows a mean homogeneity results by testing subjects in between. Comparing the results obtained by the subjects between the initial and final testing we noted that "t" has a value of 6.01, p <0.00005, which shows significant progress between the two tests. Also, if we compare the results in final testing (Table no. 6) and note that the value of term t of 4.18 indicates a statistically significant difference at p <0.0005, thus obtaining subjects significantly better at final testing. Coefficient of variation values of 12.11%, shows a homogeneous average results achieved by the final test subjects. As can be seen in the graphs presented above development to final testing results are significant both to the initial testing and testing from the application of intermediate specific exercises to improve speed and strength to the group of children where they applied working specific.

Conclusions

Following application of the training football specific explosive strength and technique in soccer players aged 12-13 years, we found an improvement in physical and technical indices. Therefore propose that in football training to introduce these exercises to improve physical and technical indicators in this age group.

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