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THE ROLE OF APPLYING A TRAINING PROGRAM TO IMPROVE THE TECHNIQUE OF HANDBALL PLAYERS - MALE JUNIORS II

Case Study

Keywords

Handball;
Applicative course;
Agility;
Coordination

Abstract

The purpose of this study was to analyze, through the "Illinois" agility test, the level of progress made by the subjects under investigation from the point of view of the evolution of coordination capacities before and after the implementation of the proposed training program. The application included 32 athletes (15 in the experimental group and 17 in the control group). The level of progress achieved by the subjects under investigation was measured by the Illinois agility test. The "Illinois" agility test for speed, testing on different directions, agility and body control showed a decrease in the average time achieved by the athletes of the experimental group at the end of the training period by 1.19 seconds, the progress achieved was 7.6%. By comparison, the control group at the end of the preparatory period shows a decrease in time during the final testing, on average, by 0.34 sec. The progress is 2.0%. The elements of the handball technique are combined in the training program with the main objective of increasing the speed in different directions, the agility, the coordination, multidirectional control and the stimulation of the creativity, implicitly improvement of the individual technique with and without the ball, in junior male handball players.

Modern handball is a dynamic sport, characterized by highly developed moving skills, which determines the theoreticians and practitioners to continuously research and update its content and the direction of the training process. The dynamic nature of handball makes it interesting to see because of the combination of technique and elegance with courage and physical strength. The training is based on modern training methods in order to optimize the three directions: running, jumping and throwing, requiring complete and harmonious physical education. Today, more than ever, handball requires greater refinement in all aspects, especially from young players trained and directed to great performance. Cojocaru, Lăzărescu and Ștefănescu (2013) considers that "the achievement of the great current performances is no longer a possible objective without the possession of a rich, multidisciplinary information, and the technology of training at the highest level of efficiency, from which, on the basis of realistic strategies, it is possible to select those items that offer the most reliable solutions to achieve the objectives, in the context of the specific conditions in which the activity takes place."

The evolution of coordination capacities, sensory and perceptual capacities has a positive impact on the technical capacities contributing to their development (Dumitru, 2011). It is believed that the high level of basic, situational, cognitive and functional moving skills is an important condition for efficient learning of new moving structures, improvement and successful implementation (Hirtz and Starosta, 2002).

Due to the characteristics of movements in handball, the emphasis was placed on the importance of basic and specific coordination for the successful completion of almost all the technical and tactical tasks in the game (Srhoj, Rogulj, Zagorac and Katić, 2006). These results prove that successful accomplishment of all the tasks of the top modern handball, among all the situational and mobility factors involved, the tactics and the tactical skills also depend on good coordination (Bojić and Pavlović, 2014).

Srhoj, Rogulj, Zagorac and Katić (2006) considers that "the development of coordination is a complex process that requires identifying the various aspects that need to be developed first and then establishing the right order in which each should be emphasized (the ability to combine different movements, the ability to analyze a specific situation, balance, spatial orientation, rhythm, response time, and the ability to adapt to different situations on a continuous basis) (Reiman, 2009). Young handball players, who have strong coordination, are more successful in performing situational and mobility tasks. The main objective of developing

coordination is the ability to use complex skills and exercises as well as to improve them (Bojić, 2008; Starosta, 2006).

METHODS

Subjects included in the research were 15 and 17 male athletes respectively, aged 15-16, members of the junior male handball team from Bucharest Municipal Sports Club and School Sports Club No. 2 Bucharest.

During the research, we applied the "Illinois" agility test through which we intended to assess the level of the following indices: speed in different directions, agility, coordination, multidirectional body control. By applying this test, we aimed to assess the progress made by the subjects under investigation from the point of view of the evolution of the coordination capacities before and after the implementation of the proposed training program. A training program was implemented on the experimental group, which included handball specific means in the form of applicative paths. These means were scheduled to be implemented three times a week of 15 minutes at the beginning of the training session.

Training program 1

a. Subject

1. Perform five jumps with your legs distanced, from next to the bench on the bench and return to their original position;
 2. Lateral winding running in the ahead direction, at the next repetition the movement position changes: 4 cones;
 3. Throwing a 3- kilogram medicinal ball from the chest from (b) above (c), recovering the ball and depositing it at (b);
 4. On the gymnastic mattress, from the dorsal position, carry out four „penknife” exercises;
 5. Taking a handball with two hands;
 6. Dribbling through lateral runners, the next repetition changes the position of the body towards the forward direction;
 7. Dribbling forward in the direction of travel among the balls;
 8. Take a shot while jumping in the 9-meter area;
- b. Recovering the ball from the gate space and at the point (5) with running;
- c. Return to the formation, while running.

Training program 2

1. The subject (a) recovers the handball from the first cone and performs 2 bounce passes with the subject (b);
2. Lateral movement with left-handed touching the cone in the left-hand row and with the right hand touching the right row, between the two rows the subject runs ahead;

3. Winding running on the ahead direction, among 4 cones;
4. Running around 2 cones, facing the ahead direction;
5. 10 left-right jumpings on 2 legs, between cones (c) and (d);
6. Run towards the cone (e), running backwards to cone (f), side running between cones (f) and (g), running towards workshop (7);
7. Take over a handball ball with two hands;
8. Dribbling and throwing at the gate through various processes

RESULTS

Experimental Research - please see Table 1 and Table 2 - Experiment Group vs. Control Group - Comparative analysis of the average of the results obtained on the statistical and mathematical indices after the application of the training program.

In the independent t test for unparaleled dispersions, having $p < 0.001 < 0.05$, for $t = 7.356$ and $df = 25$, there was a statistically significant difference in the mean scores of the two groups in the Illinois test for speed, agility and multidirectional body control. The average value is 14.46 for the experiment group and 16.59 seconds for the control group. It follows that the average is lower in the experimental group 2.13 (12.86%) sec. The size of the effect (2.51) shows a very large difference between the mean scores of the two groups achieved in the final tests. In both tests the data dispersion is homogeneous. The graph of the mean values corresponding to the results of the subjects of the two groups in the final tests is presented in Figure 1.

CONCLUSIONS

Appropriate training programs can make handball players participate more actively, as varied means of action and a high degree of attractiveness stimulate their attention, awareness and involvement in the training process. The elements of the handball technique such as moving in the field, holding the ball, passing it, driving or dribbling the ball, throwing the goal through various technical procedures characteristic to handball are combined

during the program, with the main objective of increasing speed in different directions, agility, coordination, multidirectional control and stimulation of creativity, implicitly the improvement of the individual technique with and without ball of the junior male handball player.

The Illinois agility test for speed testing on different directions, agility and body control, showed a decrease in average time achieved by the athletes of the experimental group at the end of the training period by 1.19 seconds, the progress achieved was 7.6%. By comparison, the control group at the end of the preparatory period shows a decrease in the time at final testing, with about 0.34 sec. Progress is 2.0%.

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Tables & figures

Table 1

Experimental Research - Experiment Group vs. Control Group- Illinois Agility test

Groups	Average	Difference	Median	Standard Ab.	Minimum	Maximum	Amplitude
Experiment	14.46	-2.13	14.4	0.54	13.7	15.5	1.8
Control	16.59		16.6	1.05	15.1	18.1	3.0

Table 2

Experimental Research - Independent T Test - Illinois Agility Test

Levene test for dispersion equality		Equal dispersions?	T test for equal averages				Effect size
F	Sig.		Differences between averages	t	df	p	
11.531	0.002	NO	-2.13	7.356	25	<0.001	2.51

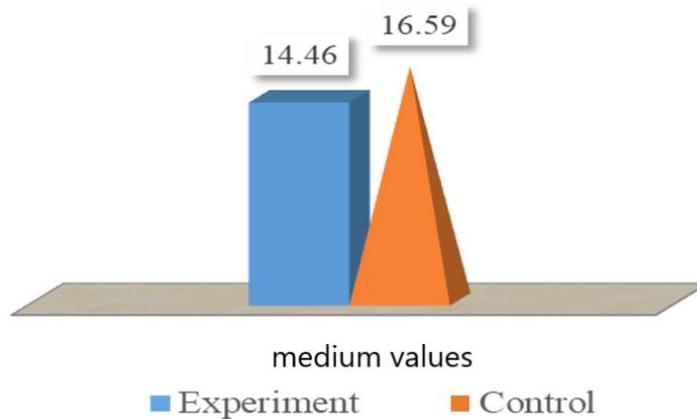


Figure 1

Experimental Research - Experiment Group vs Control Group - Medium Assay Values - Illinois Agility Test