© Eurasian Journal of Sport Science 2021; 1(2): 34-39
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Analysis of the interdependence of physical and technical training of handball players

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Abstract
Purpose: The purpose of the research was to study the relationship between the physical training of highly qualified handball players and technical training, to give methodological instructions for their improvement.
Methods: 1. Analysis of the existing special scientific and methodological literature and study of their experience 2. Pedagogical observation of the training and competitive processes of handball players 3. Acceptance of control standards from athletes 4. Mathematical and statistical methods (comparison method).
Results: As a result of the study, the physical training of highly qualified handball players and their relationship with the effectiveness of technical and tactical movements were studied. The level of physical fitness of the major league teams during the training and competition period was checked by control standards. The results obtained will serve as a means of improving the physical, technical and tactical actions of highly qualified handball players.
Conclusion: The results of the pedagogical control conducted with the teams of the highest handball league of Uzbekistan showed how important the physical and technical training of handball players is. In order for the technical and tactical behavior of handball players to be more effective, it is necessary to improve the technical and tactical training in the case of close interweaving with physical training, to carefully temper athletes in the case of using a special set of exercises of various types.

Keywords: Preparation period, control rate, championship, ball throwing, wing forwards.

Introduction

Year after year, the development of handball in the international arena primarily increases the effectiveness of the process of training the national team and club teams. But it turns out that this problem cannot be solved without regular monitoring of the competitive activities of handball players. In addition, it is very important to have an idea of the versatility of athletes in training, how much their amount, ratio and direction of the long-term training process.

This research will focus on the answers to the above questions.

Methods

This research work was conducted between November 2020 and April 2021. At the first stage of the research, it began with a theoretical analysis of the current state of the problems set before us. In the course of studying the special literature, special attention was paid to the state of training, the importance of planning and distributing training loads at different stages during the competition period.

To study the effectiveness of the game of corner players in the attack, matches of professional handball teams of Uzbekistan were observed.

The analysis took into account various types, forms and performance indicators of attacking actions of handball players. The completion of the result of the attack by different players served as the norm for the possibility of hitting the ball in the goal. The time to attack on is calculated from the time elapsed before the opponents. Similar techniques of throwing the ball into the goal and swinging the ball were used as a quality of attack.

To assess the effectiveness of the throw-in, a conditional symbol scheme was drawn up, from which place on the field the ball was thrown into the goal, and the game functions of the handball players were taken into account.

Results and discussion

In our research work, we studied the period of preparation of major league teams for competitions and the physical condition during the competition period.

On our part, when the physical fitness of the Tashkent city team during the training period was checked by special control standards, the following results were obtained. When running at a speed of up to 30 m, the total performance of the team's handball players is X= 4.6

seconds. In the jump from place to length, the total results were X=254 cm, the shuttle run at 100 m X=25 seconds, the triple jump X=757 sm, the jump from a place to height X=67 sm, the throw of a handball ball at a distance X=51 meters. When passing these standards of control, two handball players from the Tashkent City team were able to achieve high standards of control (Table 1).

match is X-32. The efficiency of throwing the ball was 72%. This is due to the fact that the indicators of physical fitness according to the standards of control for handball players are the highest (Table 2).

During the competition of the team of the city of Tashkent, when the physical training of handball players was carried out according to the standards of testing, they practically did not

Table 1. Indicators of control during the training period in the team of the city of Tashkent according to the norms of handball

Players	Running to 30 m, s	Jump from place to length, sm	The shuttle run at 100 m, s	Triple jump, sm	Jump from a place to height, sm	Throw of a ball at a distance, m
M-v	4,4	255	24	752	66	49
T-n	4,3	258	24	741	64	53
L-v	4,5	245	23	758	65	47
N-o	4,6	250	24	757	68	45
K-v	4,2	263	22	761	71	51
A-v	4,7	254	26	760	69	50
Sh-v	4,6	256	27	752	65	49
X-n	4,9	257	23	758	69	53
M-v	4,7	249	28	764	67	54
S-a	4,5	252	27	761	66	53
X	4,6	254	25	757	67	51

In the control standards that were held during the training period in the team "Almalik", many handball players were able to show high results. Overall performance according to the control standards: running at a speed of up to 30 m, the overall performance of the team's handball players is X=4.3 seconds. In the jump from the place, the overall display was X=266 seconds, the 100 m shuttle run X=23 seconds, the triple jump X=765 cm, jump from a place to height X=68 cm, and the throw of the handball ball over a distance of X=54 meters.

Having such indicators, Almalik's handball players played at a good level in the matches of the IV round of the Championship. Especially the game shown by the wing attackers, can be evaluated very positively The attacking wings were able to break through the enemy's defense line many times with their speed and jumping ability. Their goal kicking average in a

show a high level of physical qualities.

From the table, we can learn that the leading player of the team has experienced some growth compared to other players. During the matches of the fourth round, it became known that the K-b player was superior to all his teammates both physically and technically and tactically (Table 3).

During the competition, when the standards of control over the physical training of handball players were obtained, the rate of growth of physical qualities was observed in the Almalik team.

The table shows the results of the Almalik handball team according to the control standards. In accordance with the result, it was determined that during the training period, the 30 m run from X=4.3 increased to X=4.2 during the competition, jump from a place to length X=266 to X=270, the triple jump from X=765

Table 2. **Indicators of the Almalik team according to the control standards during the training period**

Players	Running to 30 m, s	Jump from place to length, sm	The shuttle run at 100 m, s	Triple jump, sm	Jump from a place to height, sm	Throw of a ball at a distance, m
Sh-o	4,3	261	23	761	65	51
R-v	4,2	260	24	765	67	54
X-v	4,1	267	23	766	68	55
T-n	4,2	267	22	768	67	51
R-a	4,1	264	21	766	67	54
F-v	4,5	266	23	768	66	53
A-v	4,2	268	25	769	69	54
T-v	4,4	267	26	759	61	53
M-n	4,4	267	23	762	65	55
L-v	4,2	268	24	763	70	55
X	4,3	266	23	765	68	54

Table 3. **Indicators of the team of the city of Tashkent according to the standards of tests during the competition**

Players	Running to 30 m, s	Jump from place to length, sm	The shuttle run at 100 m, s	Triple jump, sm	Jump from a place to height, sm	Throw of a ball at a distance, m
M-v	4,4	254	25	756	66	49
T-n	4,5	257	24	742	66	53
L-v	4,5	246	23	758	65	49
N-o	4,6	249	24	758	65	49
K-v	4,1	264	22	761	69	51
A-v	4,6	254	26	761	70	50
Sh-v	4,9	256	28	752	69	49
X-n	4,6	258	23	758	65	53
M-v	4,7	249	27	765	69	54
S-a	4,7	253	27	761	69	51
X	4,6	255	26	761	68	53

to X= 770, jump from a place to height from X= 68 to X= 70 (Table 4)

its effectiveness is 90%. The goal throw averaged 65 times, and its efficiency was 75%.

Table 4. Indicators of the team Almalik according to the standards of tests during the competition

Players	Running to 30 m, s	Jump from place to length, sm	The shuttle run at 100 m, s	Triple jump, sm	Jump from a place to height, sm	Throw of a ball at a distance, m
Sh-o	4,1	268	22	766	66	51
R-v	4,2	268	21	766	68	54
X-v	4	268	22	769	68	54
T-n	4,1	275	22	770	70	52
R-a	4,1	266	21	770	70	51
F-v	4,2	271	22	773	70	54
A-v	4,3	270	21	771	72	53
T-v	4,1	271	24	768	70	54
M-n	4,1	269	23	769	71	55
L-v	4,1	273	22	775	72	55
X	4,2	270	21	770	70	54

During the competition, during the first round of the Championship, testing standards were taken to find out to what extent the players of the Nukus handball team were also physically prepared. The results they showed were rated as the lowest. Running for 30 meters X= 4.9 seconds, jump from a place to a length X= 240, shuttle run for 100 meters X= 29, triple jump X= 733, jump from a place to a height X= 59, throw the ball for a distance X= 44.

We can say that the physical performance of the Nukus team is at a satisfactory level. An example of this is the last place in the standings in the second round of the championship.

We monitor the movements of the handball players, jumping in the game activity, running fast, throwing the ball with force into the distance, fighting for the ball with the opponent.

Many experts argued that with an ideal level of physical fitness of handball players, mistakes in their technical and tactical actions will not occur.

It is known from research that handball players use the ball passing technique many times in the game. From our pedagogical observations, the ball passes of the Tashkent city team were studied and analyzed, the team completed an average of 455 ball passes per match, In the case of an attack, the handball players mainly used two different types of attack tactics: quick break and positional attacks.

The teams of "Almalik" and "Tashkent" often managed to score in the opponent's goal in positional attacks. Moreover, a quick break attacks was organized by 16-20% of the teams, and the reliability of scoring in this attack was 85-90%.

When we classify an quick break attack, we observe that the attack is executed at a rate of 4-8 seconds. This is the passing of the handball players to an empty teammate after he has taken possession of the ball, he moves quickly forward and effectively completes the attack.

And the organization of the territorial attack is the formation of a team game of handball players. In modern conditions, it is extremely important to quickly overcome the organized defense of opponents, because attackers in this case won't be able to attack with the ball for a long time.

The use of territorial attack on the field: a lot of time is spent on introducing the ball into the game, if the speed of the game is obvious, then it is used when it is necessary to change the pace of the game, when it is necessary to replace players. Players who play along the line

in the various territorial attack variations seen in matches can also be changed in terms of numbers.

The effective completion of the attack is the introduction of the ball into the goal. From pedagogical observations, it turned out that on average, in one game, players throw 65-70 goals into the goal. When the ball is thrown to the goal, 50-55% passes through the goal, 10-15% of the ball goes to the goalkeeper or returns, touching the goal posts. In 20-25% of cases, the ball is beaten by the defenders of the opponents.

Experts say that the throwing of the ball should be improved during training process. At the same time, they need to be tied to tactical game behavior, in which the goalkeeper takes into account the behavior to hit the ball from the side, between the legs on goal.

Experts recognize that when developing technical movements in the ball throw, it is necessary to pay more attention to the game exercises in training, to master more technical movements in training.

55% of technical and tactical exercises.

During the competition, the main place is occupied by participation in competitions and preparation for them. However, training to improve physical, technical and tactical training is carried out in a large volume. During the competition, the necessary conditions are created to achieve sports training and maintain a high level of performance in the game.

You can not expect high-level games from the indicators of the physical qualities of the team of handball players of the city of Tashkent. At the end of the 2nd half, the physical activity of the Tashkent handball players was rather sluggish. It is clear that not all team members participate in the exercises, the training is conducted in a fairly simple state.

In order for the technical and tactical behavior of handball players to be more effective, it is necessary to improve the technical and tactical training in the case of close interweaving with physical training, to carefully temper athletes in the case of using a special set of exercises of various types.

Table 5. The coefficient of effective ball passes in the game

Technical actions	Teams		
	Almalik	Tashkent	Nukus
Number of accurately passed balls	441	411	385
Total number of balls passed	471	455	449
Coefficient of efficiency	93%	90%	85%
The number of balls accurately thrown into the goal	58	49	37
Total number of balls thrown into the goal	67	65	59
Coefficient of efficiency	86%	75%	62%

Conclusion

From the information received from the physical training of the teams, it can be noted that the handball players of the team "Almalik" have a good level of assimilation and improvement of the physical, technical and tactical aspects of training. During the training period of the Almalik team members, the distribution of physical training loads over the competition periods was as follows: during the training period, 70% of the training amount was devoted to physical activity: during the special training period, physical activity accounted for 45% and

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