OBSERVATIONS ON PREPARATION OF JUNIOR TEAM "D", F.C. BIHOR, NATIONAL CHAMPION IN FOOTBALL IN 2008/2009 SEASON

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ABSTRACT

PURPOSE. The purpose of this paper is to improve the preparation of young footballers based on the experience of junior team D which won the Romanian championship, 2008/2009 edition. The researched subjects are players of FC Bihor team whose training and behaviour in play were followed during the championship.

METHODS. Based on the observation of the team’s trainings and games, as well as of the testing results, there has been achieved an image of the junior team’s training in the competitive year 2008/2009.

RESULTS. Their morpho-functional and training indexes have been compared with the data from the specialty literature and it has also been their evolution between the beginning and the ending of the season (initial testing, final testing). In the statistical processing of data, t test was used dependent samples in order to determine the significance of difference.

CONCLUSIONS. In training the team, the age particularities and training level were respected and it allowed achieving performances in competition.

KEY WORDS: junior team, football, training.

INTRODUCTION

To the D junior championship, players born in 1.01.1996 and younger take part. The championship takes place on county level and the superior phases (regional, semifinal and final) are organized by FRF. The matches are played on normal field, two halves of 30 minutes each and a 10 minutes break. Five substitutions can be made by each team.

Morphological, functional, physiological and psychological particularities at the age of 12-13

Boys of 12-13 years old are in a complex phase of growth: puberty, having as central phenomenon the sexual maturation produced by the increased flux of sexual hormones which determine the appearance secondary sexual characters concomitantly with deep somato-vegetative and psychic changes (M. Ifrim, 1986). The puberty period is characterized by an increased rhythm of growth and development of organs, apparatuses and systems from the somatic area and those from the vegetative area.

Locomotor apparatus

The bones consolidate their functional structure becoming more resistant.

The development of thorax, during the first part of puberty, is slow (the age of narrow thorax), after which a more accentuated development follows.

The joints are poorly developed and the ligaments do not provide enough resistance to traction, to twisting.

The reaction and repetition velocity is developed, yet strength and resistance are far behind compared to the adult. Therefore, there are not allowed trainings with the purpose to obtain performances in the efforts of strength and resistance.

The growth in length of bones and elongation of muscles provide the aspect characteristic to puberty: tall and thin with narrow thorax, negative Erissmann index (M. Ifrim, 1986).

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Weight (Kg)</th>
<th>Height (cm)</th>
<th>Thoracic perimeter (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Breathing in</td>
<td>Breathing out</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>39.51±7.05</td>
<td>150.12±7.74</td>
<td>75.49±5.5</td>
</tr>
<tr>
<td></td>
<td>72.2+5.63</td>
<td>75.49±5.5</td>
<td>69.63±5.51</td>
</tr>
<tr>
<td>13</td>
<td>44.61±8.25</td>
<td>156.94±8.6</td>
<td>78.85±5.81</td>
</tr>
</tbody>
</table>

Table 2. Values of weight and height for the age of 12-13 (M. Rădulescu, V. Cojocaru, 2003).

<table>
<thead>
<tr>
<th>Age in years</th>
<th>Weight (Kg)</th>
<th>Height (cm)</th>
<th>IMC Kg/m²</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>44</td>
<td>153</td>
<td>18.79</td>
</tr>
<tr>
<td>13</td>
<td>51</td>
<td>161</td>
<td>19.67</td>
</tr>
</tbody>
</table>

The nervous system develops fast and the maturity of the analyzer’s cortical area is reached. The function of analysis and synthesis of the cortex develops and the process of internal inhibition increases. The formed conditioned reflexes disappear slower. The great plasticity of the central nervous system is maintained although it has lost some of its vitality and efficiency due to hormonal perturbations which emphasize the reactive character of the nervous system, leading to instability of behaviour and affective state. During...
puberty, still persists the insufficiency of conditioned inhibition processes compared to the power of the excitation processes. Due to this fact, the movements of children at this age have a sudden character with low precision.

These particularities of the central nervous system, at children at puberty, influence directly the speed of motor skills formation and stabilization, favouring the occurrence of fatigue, weakening, in a certain extent, will and perseverance. On the other hand, the great plasticity of the cortex favours the initial elaboration of certain motor conditioned reflexes and even complex dynamic stereotypes, their stabilization and fixation requiring an increased number of repetitions and exercising. Due to the increased plasticity of the cortex, the cortical neurons accomplish quickly their energetic balance, fact which favours the mobility of the fundamental nervous processes.

Cardio-vascular apparatus – the blood flow regulation mechanisms are frequently disturbed (sympathetic predominance) and they are exaggerated in effort. Frequently, there can be encountered functional breaths in the heart, arrhythmia and crises of hypertension. At the age of 13, the heart volume is 250 cm³.

The cardio-vascular apparatus develops slowly during puberty. The arteries have a diameter proportionally bigger than those of an adult and the veins and the lymphatic system are well represented. The heart rate decreases by the end of puberty to 80 pulses per minute (M. Ifrim, 1986). The systolic volume increases, so at the age of 13, it has values of 40-45 ml. The cardiac flow also increases. Both values are still far from the values of an adult. Short and intense cardio-respiratory efforts are not indicated, soliciting too much the heart.

The respiratory apparatus develops intensely during puberty. The respiratory function is clearly ameliorated. The amplitude of respiratory movement increases (from 230 ml, actual volume at the age of 11, to 300 ml at 13), the respiratory frequency decreases (from 22 per minute at the age of 11, to 20 at the age of 13), the vital capacity increases and the tissual breathing – assessed according to maximum O2 intake per minute – increases considerably (yet the maximum limits of aerobic capacity to effort are not reached, thus in resistance efforts, maximum results cannot be obtained). The vital capacity improves: at the age of 13 – 2900 cm³ (D. Apolzan, 1996).

Psychic particularities – at puberty, significant changes occur in the psychic life as well. The perceptions become clearer and get selectivity character, space and time orientation is considerably improved, suffering the influence of thinking processes. In cognitive activities, the predominance of the second signaling system is manifested. The child is able to operate with notions with an increasing degree of abstractization, manifests interest and curiosity for theory, for the explanation of phenomena belonging to reality. The capacity of focusing attention is ameliorated. It increases the interest for themselves, for their inner world, quite frequently there appear states of distrust in their own possibilities. The quality of will is developed, the desire of showing their abilities, of imposing their own decisions is manifested. Forms of self-education appear in order to cultivate the capacities considered ideal. Their “targets” move higher and higher although the reasons are still unstable. The sense of responsibility is intensely developed. The behaviour is characterized by exuberance, by participating to numerous and various activities. The need to move, to play is maintained, though it gets other significances. The rules of the game are respected, yet the purpose is to draw attention of people around them, to be appreciated, to assert themselves (M. Rădulescu, V. Cojocaru, 2003).

This is the age when they can learn the perfect technique. It is possible and it is indicated to appeal to understanding, to the explanation of elements and the implications of each motor act, of the meaning and necessity to respect the given advice. The movement must be taught with awareness, that is, clear, precise presentation of exercise principles. The attitude towards the child should be full of tact in order to fight the crises of shyness, anxiety, the fear of being ridiculous in front of the training group members, resulted from the incorrect execution of exercises. The trainer should carefully choose his words and phrases, he should be close to the children, he should make himself loved and the children should see in him a positive example, worth to be followed. Encouragement, praise, decomposition of complicated exercises into simpler elements which can be successfully executed, they all represent some concrete working procedures.

Puberty is the period when it is very important the issue of children selection according to physical and psychic skills. This is possible since the psychic skills and features are basically formed. After a working period of 4-5 years, a new selection stage appears (secondary selection) which should direct the children towards practicing the sport for which they show interest however which should also correspond to their skills (A. Nicu, 1993). This is a pedagogical principle, but also one of ethics because it eliminates the possibility of poor results in the chosen sport which could cause later on the disillusion of unfulfilled hopes.

The competition will reach its instructive-educational purposes and it will positively influence the personality and the sport results if the following aspects are taken into consideration:
- necessity to stimulate the desire to play, to compete with other teams;
- the participation to matches should be an occasion to encourage the child who learns faster under competition circumstances;
- to counter indicate the pressing intentions to win;
- the loss of a match should not be an occasion for hostility and irony and the child should not be afraid if he has made a mistake during the match.

Characteristics of training resulted from the age specifics
Teaching and learning the game and its elements receive new aspects. It is the transition period from the methodology of young age to the one that starts to divide the instruction directions. At this age, the
biological and social conditions are created for a constant activity in football, performance oriented.

Children at this age are capable to acquire an impressive motor content at a high qualitative level, sometimes similar to senior players.

The training factors are approached as a correlated whole but there are conditions that in order to learn the constituting elements of the game, they should be approached in a restricted correlated form, that is, one in the other’s regime. There can be processed even elements of a single factor to consolidate some established effects and specific skills. However, because the preparation of training factors does not constitute a purpose in itself but means to improve the play, it is required that it should be the final form of testing and integration of analytically prepared elements. This should not exclude the training on factors, either grouped or isolated.

It is good to be a balance between the physical factor and the technical-tactical training. In what the physical qualities are concerned, they will be dealt with preferably through technical training and playing means; in order to improve general physical capacities or isolated development of one of these motor qualities, the physical factor can be acted upon also through specific means.

The parameters of effort, volume, intensity and complexity are to be specifically dozed. The effort volume increases compared to the preceding period. It comprises 4-5 training lessons per week and one match. Within a training lesson, the quantity of means is increased, the duration being of 90-120 minutes, with a weekly volume of about 500 minutes.

Development of resistance is favoured at this age by the growth process, the changes of height, weight as well as by the development of circulatory and respiratory apparatuses and of muscles. It is recommended the increase of the body’s capacity to adjust to long lasting effort as basis for the amelioration of resistance. The main training means are the long runs and short intervals.

At the age of 12-13, the gesture frequency and reaction speed reach high values. The running speed depends on the degree of development of muscle strength and of the anaerobic capacity. As training means, all types of runs will be used. The speed and handling-coordination indexes stop to increase around the age of 14. In order to fully use the genetic potential, it is necessary to continuously work for speed, based on the principle of simultaneous approach of training factors, all around the year. Attention will be paid to the education of reaction and rhythm as well as of indirect positive transfer upon speed of the repetition of technical-tactical means and of the work for spring.

The task, during this period, regarding force education is to strengthen the muscles, ligaments and joints. For children at the age of 12-13, force training should begin with the harmonious development of muscles. The purpose is to obtain robust, profiled muscles which should help the spine, the skeletal system in general. At this age, strength develops quickly. The priority order is:

- analytical development of the great group muscles in neuro-muscular regime;
- development of dynamic force, in speed regime, through a multilateral approach.

If the factors it depends upon are provided, strength is a quality quite easy to improve. Strength work out is a process already in progress but which requires a long time interval. During this age period, the principle of continuity and progressiveness must also be applied.

At this age, when accelerated growth in height and weight is manifested, when important hormonal changes take place, it is noticed deterioration of mobility and of muscle and ligament stretching capacity. A continuous training for mobility is required, especially for the spine and the coxo-femoral joint.

The coordinating capacities must be trained both isolated and interdependently with the conditioning qualities (speed, strength, resistance) and with their combinations.

The dominant of the age group 12-13 is the technical training in regime of tactics and superior physical training. Having this view upon the interference of factors, we can establish another training characteristic – the technical factor is still predominant – but the purpose will be the development and improvement of its physical and tactical components. Thus, the elements and technical actions will be repeated with superior indexes of speed, resistance and strength and will be placed in concrete tactical relations (I. Ionescu, M. Demian, 2007).

In approaching technique, attention will be focused on three important aspects:

- repetition of “ABC” of technique;
- preoccupation for a useful, fast technique, consequence of the relation with the physical component;
- tendency of multilateralism and applying technique with tactics.

Another issue of methodical importance is the rational dosage of instruction and playing efforts. It has been noticed that the age of 12-13, the technical and playing skills break the balance of their concordance with the children’s morpho-functional development. The great plasticity and receptivity of the nervous system allows the acquiring and formation of many specific skills, in an appropriate technical structure. Technique is actually the way to use the ball in real playing conditions. The isolated technical gesture has no significance unless it allows the achievement of tactical tasks. Each training means should be characterized by an indispensable connection between technical gestures, perception of the playing area and the possible solutions in solving the problem created by teammates and opponents.

The objectives of technical training at the age of 12-13 are:

- increase of technical improvement degree;
- technical instruction subordinated to speed;
- modeling technical acts according to the play requirements;
- individualization of technical training in order to achieve the “polyvalent-independent” player, capable
to accomplish the requirements of the position and not only:
- valorization of the acquired technical fund in the fundamental structures specific to the position and field areas.

The tactical factor receives importance in parallel with the physical and technical accumulations. An important role is that of the diversification and specialization of technical executions on tactical situations. At this age, the consolidation of individual and collective tactical elements is made in accordance with the development of capacity to choose the most indicated technical variants for the playing situations. The correct orientation in attack and defense situations, within the proposed playing system, must be the main characteristic of the tactical behaviour (I. Ionescu, M. Demian, 2007).

CONTENT

For the 2008/2009 championship, the training of “D” junior team (12-13 years old) F.C. Bihor started with 21 players. With small exceptions, the components of the lot had already 4-5 years of organized training in football.

F.C. Bihor team participated in the “D” junior championship organized at county level by A.J.F. Bihor. In this championship, there were 12 teams. The matches were played in weekend and lasted 60 minutes (2x30 minutes).

In elaborating the training plan for the team the following aspects were taken into consideration:
- all players are pupils, so their training had to be synchronized with their school schedule;
- the players’ age particularities require attention for the following aspects:
  - it is the period in which work can be done well in order to develop handling, materialized in correct execution of the main technical procedures;
  - they can work efficiently to develop reaction and execution speed;
  - development of resistance and strength must be made carefully, the exercises being always followed by recuperation of the body’s working capacities;
  - the organization under the form of play of the exercises must be judiciously combined with the analytical and precise feature of the basic mechanism of the technical procedures.

The annual training plan for the 2008/2009 championship took into consideration the established data: tour: August 31 – November 9 2008; rematch: March 8 – May 17 2009.

The summer training period, July 12 – September 27, comprised the following stages:
1. readjustment to effort July 12 – July 20;
2. basic accumulation July 21 – August 3;
3. progressive getting in shape August 4 – august 30.

The general objectives during the training period were: increasing the effort capacity, gaining a superior level of basic motor qualities development, consolidation of technical skill, correction of deficient technical procedures.

Stage 1 – readjustment to effort – 9 days;
   Tasks: undergoing medical control to assess the health state and effort capacity and progressive adjustment of the body to effort.
   Means: running; gymnastics and stretching exercises; technical exercises (kicking and hitting with the head, taking the ball forward, trapping); games.
   Indications: the effort volume, small at the beginning, progressively increases; small and medium intensity; 50% of the maximum capacity; pulse 120-130, 130-150, 150-170; training factors: technical-tactical 50%, physical 40%, theoretical 10%;
   - number of trainings: 9, number of training hours: 14;
   - the duration of the lesson increases progressively from 60 minutes to 90 minutes.

Stage 2 – basic accumulation – 14 days.
   It was the stage in which, benefitting of a week training away and of the pupils’ holiday, two trainings were made per day, the afternoon one being the technical-tactical one.
   Tasks: progressive increase of effort capacity, improvement of basic psycho-motor qualities, exercising the basic technical procedures, repetition of technical-tactical skills, enriching the specialty knowledge.
   Means: running (flat field, varied field), running with intervals, running with repetitions, mobility, gymnastics, stretching exercises (upper limbs, lower limbs, abdomen), technical-tactical exercises (combinations, finalizations), games (with theme, friendly games, testing games).
   Indications: the effort volume will reach its highest value at the end of this stage; effort intensity increased progressively often working in the mixed area 60-80% of the maximum capacity; pulse 150-170, 170-180; training factors: technical-tactical 45%, physical 55% and theoretical 5%;
   - number of trainings: 18, number of training hours: 26;
   - number of friendly matches: 4, duration of the training lesson: 80-100 minutes.

Stage 3 – progressive getting into shape (pre-competitive) – 27 days.
   Tasks: reaching a superior level of development of effort capacity, of basic and specific psycho-physical qualities and of execution of technical procedures, consolidation of playing tactics, rational organization of the play, elaborating the basic formation, gradual achievement of sportive shape.
   Means: running with intervals, running with repetition, mobility and strength exercises, technical-tactical combinations, games (with theme, testing games, friendly games).
   Indications: the effort volume decreases but remains at a superior level; high intensity – mixed and anaerobic area 70-80% and 80-95% from the maximum capacity; pulse; over 150, 150-170, 170-180, 180 and more; specific means have great importance; individual work and with the entire team; importance of training factors: physical 45%, technical-tactical 50%, theoretical 5%;
   - number of training: 16, number of trainings: 26;
Indications: the effort volume decreases but remains at a superior level; high effort intensity – mixed and anaerobic area 70-80% and 80-95% from the maximum capacity; pulse over 150, 150-170, 170-180, 180 and more; specific means have great importance; individual work and with the entire team; importance of training factors: physical 40%, technical-tactical 55%, theoretical 5%; number of training: 10, number of trainings hours: 15; number of friendly matches: 8; duration of the lesson: 70-100 minutes.

Competitional period March 8 – May 17 (11 stages):

Objectives: maintaining the sportive shape, improving the motor qualities based on the relative stability of sportive shape, improvement of playing speed, consolidation of playing relationships between players from close compartments, increase of combat in play, improvement of precision in taking sending the ball and shooting at goal.

- number of friendly matches: 8, duration of the lesson: 90-100 minutes.

Competitional period August 31 – November 9 (11 stages):

Objectives: maintenance of sports shape, improvement of motor qualities based on the relative stability of sports shape; improvement of playing speed, consolidation of tactical combinations in attack, consolidation of playing relationships between players from close compartments, increase of combat in play, improvement of ball sending precision and kicking at the goal.

Means: running with repetitions, technical-tactical exercises, practicing the technical procedures, games with theme, school games.

Indications: the effort volume decreases; big and medium intensity when closing the official match; great importance of specific means; importance of training factors: physical 45%, technical-tactical 55%.

- number of trainings: 50, number of training hours: 66, number of friendly matches: 7, number of official matches: 11, duration of the training lesson: 90-100 minutes.

There were 5 trainings per week, in most weekly cycles being planed one friendly match in the middle of the week for homogenization.

The transition period, November 10 – January 20, a long period determined by the character of the competition, was used at the beginning to continue the trainings as follows:

November 10 – December 22 active transition:
- indoor tours 9 matches, technical-tactical trainings 12.

December 23 – January 19 period for rest and recuperation.

Tasks: recuperation of the body after the competitive period, recuperation of the injured players, maintenance of the effort capacity at high levels.

Means: rational nutrition, active rest, unspecific effort; swimming, tennis, volleyball, handball, running.

Indications: the physical effort is not interrupted but is replaced with the unspecific one.

The winter training period January 20 – March 7, had the following stages:
1. readjustment to effort January 20 – January 31;
2. basic accumulation February 1 – February 15;
3. gradually getting in shape (precompeetitional) February 16 – March 7.

Stage 1 – readjustment to effort – 12 days – preparation with one training per day.

Tasks: undergoing medical control in order to assess the health condition and the effort capacity, progressive adjustment of the body to effort.

Means: long running, gymnastics and stretching exercises, technical exercises (kicking and hitting with the head, taking the ball forward, trapping), games.

Indications: the effort volume, small at the beginning, progressively increases, small and medium intensity, 50% from the maximum capacity, pulse 120-

- 130, 130-150, 150-170. importance of training: technical-tact 45%, physical 45%, theoretical 10%.
- number of trainings: 12;
- duration of the lesson increases progressively from 60 minutes to 100 minutes.

Stage 2 – basic accumulation – 16 days, as in the previous training it contained one week practice away with two trainings a day.

Tasks: progressive increase of effort capacity, improvement of basic psycho-motor qualities, exercising the basic technical procedures.

Means: long running (flat field, varied field), running with intervals, running with repetitions, mobility, gymnastics, stretching exercises, strength exercises (upper limbs, lower limbs, abdomen), technical-tactical exercises (combinations, finalizations), games (with theme, friendly games, testing games).

Indications: the effort volume will reach its highest value at the end of this stage; effort intensity increased progressively often working in the mixed area 60-80% of the maximum capacity; puls 150-170, 170-180; training factors: technical-tactical 40%, physical 40% and theoretical 5%;
- number of trainings: 21, number of training hours: 30;
- number of friendly matches: 4; duration of the training lesson: 80-100 minutes.

Stage 3 – progressive getting into shape (precompeetitional) – 19 days.

Tasks: reaching a superior level of development of effort capacity, of basic and specific psycho-physical qualities and of execution of technical procedures, consolidation of playing tactics, rational organization of the play, elaborating the basic formation, gradual achievement of sportive shape.

Means: running with intervals, running with repetition, mobility and strength exercises, technical-tactical combinations, games (with theme, testing games, friendly games).

Indications: the effort volume decreases but increases with change, high effort intensity – mixed and anaerobic area 70-80% and 80-95% from the maximum capacity; pulse over 150, 150-170, 170-180, 180 and more; specific means have great importance; individual work and with the entire team; importance of training factors: physical 40%, technical-tactical 55%, theoretical 5%;
- number of training: 10, number of trainings hours: 15;
- number of friendly matches: 8; duration of the lesson: 70-100 minutes.
Means: running with repetitions, technical-tactical exercises, practicing the technical procedures, games with theme, school games.

Indications: the effort volume decreases; big and medium intensity when the official match is approaching; great importance of specific means; importance of training factors: physical 45%, technical-tactical 55%.

- number of trainings: 50, number of training hours: 66, number of friendly matches: 8, number of official matches: 11, duration of the training lesson: 90-100 minute.

There were 5 trainings per week, in most weekly cycle being planned one friendly match in the middle of the week in order to consolidate the playing tactics.

At the end of the championship, the team came on the first place and participated to the national phase which took place in several stages.

The regional stage took place in Oradea with the teams: Jiul Petroșani, L.P.S. Banatul Timișoara and C.S.S. Caransebeș between May 30 and June 2 2009. F.C. Bihor won against all these teams and was qualified.

The semifinal tour took place also in Oradea, June 10-14. F.C. Bihor won the sub-group against the teams L.P.S. Satu Mare (0 – 0, on June10) and Petroliul Moreni (4 – 0 on June 12) and played the decisive match with the winner the other sub-group Football School Gica Popescu.

F.C. Bihor - Football School Gica Popescu 3-1.

The final was played on June 22 2009 at Mogosoaia with the team Farul Constanta, the winner of the semifinal tour in Iasi.

F.C. Bihor - Farul Constanta 1 – 1, during the regulation playing time and 4-3 after executing the departing kicks, F.C. Bihor team being declared national champion at this age group.

Training aspects

The physical factor

It was approached with priority during the training period, yet it was not neglected during the competitive period. The work was focused on the development of aerobic resistance without exaggerating with long running. Development f speed was a constant concern due to the age specific. There were used sprint exercises on short distances (10, 20 m) but also exercises under the form of contests, relays, games. The dynamic force was worked with emphasis on the abdomen, back and legs muscles. There were used exercises to help the players defeat their own weight.

The technical factor

No training was carried on without a ball. The emphasis was laid on the consolidation of basic technical procedures by the use of analytical exercises, exercises with opponent (semi-active, active), exercises under the form of a game. It was emphasized the efficiency of using each technical procedure.

The tactical factor

It was the second year in which the team played on a field with regular football dimensions. As mentioned before, there were many friendly matches which allowed the consolidation of the playing relationships and allowed the team members to get used to the position tasks. The used playing system was 4 – 4 – 2, with zone defense which allowed best the cover of the field and the relationships between players. Sometimes the system became 4 – 3 – 3 by repositioning the center forwards and attackers.

RESULTS

The morpho-functional and physical training indexes of the team components were determined at the initial testing (August 2008) and at the final one (May 2009) in order to see both their evolution and the comparison with data from the specialty literature referring to players of this age.

The analysis and interpretation of results was made with the help of SPSS software, variant 15. When processing the data, the descriptive analysis of these indexes was made.

<table>
<thead>
<tr>
<th>Crt nr.</th>
<th>Tested indexes</th>
<th>Initial testing M ± DS</th>
<th>Cv (%)</th>
<th>Final testing M ± DS</th>
<th>Cv (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Weight (kg)</td>
<td>44.64 ± 5.95</td>
<td>13,32</td>
<td>49.45±6.98</td>
<td>14,11</td>
</tr>
<tr>
<td>2.</td>
<td>Height (cm)</td>
<td>157±7.33</td>
<td>4,67</td>
<td>162,9±7.68</td>
<td>4,71</td>
</tr>
<tr>
<td>3.</td>
<td>IMC (kg/m²)</td>
<td>18.04±1,25</td>
<td>6,92</td>
<td>18.53±1,36</td>
<td>7,34</td>
</tr>
<tr>
<td>4.</td>
<td>Vital capacity (cm³)</td>
<td>2090,48±262,5</td>
<td>12,56</td>
<td>2295,24±224,67</td>
<td>9,79</td>
</tr>
<tr>
<td>5.</td>
<td>Speed 50 m (sec)</td>
<td>9,34±0,62</td>
<td>6,64</td>
<td>7,96±0,31</td>
<td>3,89</td>
</tr>
<tr>
<td>6.</td>
<td>Pentajump (m, cm)</td>
<td>9,77±0,7</td>
<td>7,16</td>
<td>9,96±0,77</td>
<td>7,73</td>
</tr>
</tbody>
</table>

The t test for the difference between the averages of two dependent samples emphasized the significant differences (p ≤ 0.05) between the values obtained at the initial testing compared with those obtained at the final testing for the following morpho-functional and physical training indexes: weight, height, IMC, vital capacity and speed (p ≤ 0.0001, tabel 4). Regarding the pentajump test, even if the values of the final testing were bigger, the difference was not significant (p ≤ 0.05).

In both testings, the players presented very good homogeneity which did not exceeded 14%, in most cases being under 10%.
Table 4. Comparison between the players’ initial and final data (n=21)

<table>
<thead>
<tr>
<th>Indexes</th>
<th>Standard deviation of difference between averages</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>1,94</td>
<td>-11,363</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>1,599</td>
<td>-16,99</td>
</tr>
<tr>
<td>IMC (kg/m²)</td>
<td>0,6063</td>
<td>-3,725</td>
</tr>
<tr>
<td>Vital capacity (cm³)</td>
<td>174,57</td>
<td>-5,375</td>
</tr>
<tr>
<td>Speed 50 m (sec)</td>
<td>0,678</td>
<td>9,112</td>
</tr>
<tr>
<td>Pentajump (m, cm)</td>
<td>1,0085</td>
<td>-0,843</td>
</tr>
</tbody>
</table>

Table 5. The values of research subjects compared to data from the specialty literature

<table>
<thead>
<tr>
<th>Nr. crt.</th>
<th>Indexes</th>
<th>Average values of the F. C. Bihor team</th>
<th>Values from the specialty literature (M. Rădulescu, V. Cojocaru, 2003)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Weight (kg)</td>
<td>49,45</td>
<td>51</td>
</tr>
<tr>
<td>2.</td>
<td>Height (cm)</td>
<td>162,9</td>
<td>161</td>
</tr>
<tr>
<td>3.</td>
<td>Vital capacity (cm³)</td>
<td>2295,24</td>
<td>2500</td>
</tr>
<tr>
<td>4.</td>
<td>Speed 50 m (sec)</td>
<td>7,96</td>
<td>8,3</td>
</tr>
</tbody>
</table>

As it can be noticed in table 5, the average values of the team are situated near to the values in the specialty literature for players at this age, only the indexes of vital capacity being under average.

CONCLUSIONS

The results obtained by the F.C. Bihor “D” junior team in the competitive year 2008/2009 are the consequence of a quality training which allowed the players to valorize to the maximum their physical and technical-tactical qualities. The attentive selection and the combination of all training factors (physical, technical, tactical) in optimum proportion have led to results in competition but also to the training of players in accordance to the age requirements. The national phase which followed the championship at county level raised problems of planning the training, problems which were overcome by the team’s trainer.

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