

**THE ANALYSIS OF SPECIFIC PHYSICAL TRAINING  
INDICATORS WITHIN THE FRAMEWORK OF A YEARLY  
TRAINING CYCLE OF YOUNG FOOTBALLERS ON  
DIFERENT FIELD POSITIONS IN THE GAME**

*SÎRGHI Serghei<sup>1</sup>*

*<sup>1</sup>State University of Physical Education and Sport, Chişinău,  
Republic of Moldova*

**Key words: footballers, differentiated special physical training, position on the field, different age categories.**

**Abstract:** The main aim of this study was to find out the increase level of the differentiated special physical training for different age categories of footballers depending on their positions on the field. A complex test of special physical features has been performed in order to achieve this objective. Reevaluation of the training process of children and juniors practicing football is a complex phenomenon that requires training solutions based on multiple information, experiments, research and studies. It has a number of features, mainly due to the peculiarities that are shown by different periods of their development. That's why the problem of specific differentiated physical training for 10-14 year-old footballers has been approached.

The settled current major scientific issue in this area covers a differentiated approach to the development of the young footballers' specific physical qualities which will further optimize the educational process and enhance its effectiveness.

Following the review of literature in the field, teachers' observations during the experiment, and relying on survey data, there have been prioritized the development of physical qualities specific to young players depending on their game positions, the ways of their manifestations, determining the specific differentiated physical training level in the course of one-year training cycle, which, in their turn, extend and complement the existing layout in the theory and methodology of sports training in football.

Nowadays, performance in football can be achieved only through the complex development of all motor skills. The necessary technical skills and tactical aptitudes required for getting the victory depend on the

level of these characteristics. Therefore, the coach has to know perfectly the methodology of developing the required motor characteristics in the process of training young footballers depending on peculiarities of their age. The optimization of the planning process depends entirely on the availability of required information regarding the process of education and training [3,7].

Today, there is a limited number of publications in the literature of field, relating to matters of physical training in children and junior football. Some researchers [2,6] propose to solve this problem by complex planning and developing of motor skills during the training stages, which enables them to develop model features of footballers for the respective age [1,5,8]. Others [2] propose its solution through pedagogical control, evaluation and assessment of physical state of young footballers. Another group of authors claim that the solution of the problem is to know the aspects of selecting children with aptitudes for playing football according to the criterion of motor skills which they have [3,4] and the player's field position in the game [6,9,10].

Revaluation of the training process of children and juniors practicing football is a complex phenomenon that requires training solutions based on multiple information, experiments, research and studies. It has a number of features, mainly due to the peculiarities that are shown by different periods of their development. That's why the problem of specific differentiated physical training for 10-14 year-old footballers has been approached.

*The settled current major scientific issue* in this area covers a differentiated approach to the development of the young footballers' specific physical qualities which will further optimize the educational process and enhance its effectiveness.

*Paper theoretical significance and the value of the work.* Following the review of literature in the field, teachers' observations during the experiment, and relying on survey data, there have been prioritized the development of physical qualities specific to young players depending on their game positions, the ways of their manifestations, determining the specific differentiated physical training level in the course of one-year training cycle, which, in their turn, extend and complement the existing layout in the theory and methodology of sports training in football.

*Methodology and research organization.*

*The purpose of research* is to optimize the structure of the physical training for the 13-14 year-old junior football players based on special

exercise training of differentiated approach depending on their game positions.

*Objectives:*

1. Studying and theoretically generalizing the process of sports training playing in different positions in the course of a one-year training cycle.

2. Evaluation of junior football players' level of specific physical training depending on their positions on the field.

To achieve the established purpose and objectives, a comprehensive testing of specific motor skills of 68 footballers playing in different positions has been done. They have been divided into two groups: the experimental group (n=34) and the control group (n=34). During the final experiment, according to the requirements CPTF FC "Zimbru", five motor tests have been performed: the determination of start speed - 10 m speed running results, speed distance and acceleration capacity – 30 m distance, the determination of explosive force - long jump, the determination of specific resistance – crossing 180 m distance, the determination of general resistance – 6 minutes running.

*The research results.* As a result of the experimental study the average values of young footballers' special physical training indices were registered and presented in Table 1,2,3,4.

**Table 1. Dynamics of specific physical training evaluation of players specialized as goalkeeper**

| Nr. Ctr. | TESTS                        | Groups and Statistics | Statistical indicators |               |      |        |
|----------|------------------------------|-----------------------|------------------------|---------------|------|--------|
|          |                              |                       | Initial                | Final         | t    | P      |
| 1        | Running 10 m (sec)           | M                     | 1,90±0,04              | 1,87±0,04     | 1,25 | > 0,05 |
|          |                              | E                     | 1,89±0,04              | 1,84±0,03     | 2,50 | > 0,05 |
|          |                              | t                     | 0,17                   | 0,60          | —    | —      |
|          |                              | P                     | > 0,05                 | > 0,05        | —    | —      |
| 2        | Running 30 m (sec)           | M                     | 4,82±0,09              | 4,76±0,08     | 1,20 | > 0,05 |
|          |                              | E                     | 4,80±0,08              | 4,50±0,07     | 6,00 | < 0,01 |
|          |                              | t                     | 0,17                   | 2,36          | —    | —      |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —      |
| 3        | Running 180 m (sec)          | M                     | 44,46±0,46             | 44,20±0,44    | 0,93 | > 0,05 |
|          |                              | E                     | 44,36±0,45             | 42,78±0,42    | 5,85 | < 0,01 |
|          |                              | t                     | 0,16                   | 2,33          | —    | —      |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —      |
| 4        | Long jump from standing (cm) | M                     | 196,67±3,70            | 199,21±3,68   | 1,12 | > 0,05 |
|          |                              | E                     | 197,83±3,71            | 211,38±3,65   | 5,99 | < 0,01 |
|          |                              | t                     | 0,22                   | 2,35          | —    | —      |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —      |
| 5        | Running 6 min (m)            | M                     | 1269,44±16,85          | 1276,78±16,80 | 0,71 | > 0,05 |
|          |                              | E                     | 1270,58±16,82          | 1330,15±16,74 | 5,38 | < 0,01 |
|          |                              | t                     | 0,07                   | 2,25          | —    | —      |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —      |

**Table 2. Dynamics of specific physical training evaluation of players specialized as full-back**

| Nr. Ctr. | TESTS                        | Groups and Statistics | Statistical indicators |               |      |         |
|----------|------------------------------|-----------------------|------------------------|---------------|------|---------|
|          |                              |                       | Initial                | Final         | t    | P       |
| 1        | Running 10 m (sec)           | M                     | 1,89±0,04              | 1,84±0,03     | 1,67 | > 0,05  |
|          |                              | E                     | 1,88±0,04              | 1,82±0,03     | 2,00 | > 0,05  |
|          |                              | t                     | 0,17                   | 0,50          | —    | —       |
|          |                              | P                     | > 0,05                 | > 0,05        | —    | —       |
| 2        | Running 30 m (sec)           | M                     | 4,76±0,10              | 4,66±0,09     | 1,25 | > 0,05  |
|          |                              | E                     | 4,80±0,11              | 4,38±0,08     | 5,25 | < 0,001 |
|          |                              | t                     | 0,27                   | 2,33          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 3        | Running 180 m (sec)          | M                     | 44,48±0,47             | 44,08±0,45    | 1,21 | > 0,05  |
|          |                              | E                     | 44,40±0,46             | 42,72±0,43    | 4,42 | < 0,01  |
|          |                              | t                     | 0,12                   | 2,19          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 4        | Long jump from standing (cm) | M                     | 194,90±3,73            | 198,67±3,71   | 1,18 | > 0,05  |
|          |                              | E                     | 195,80±3,75            | 211,26±3,68   | 4,84 | < 0,001 |
|          |                              | t                     | 0,17                   | 2,41          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 5        | Running 6 min (m)            | M                     | 1271,55±17,35          | 1286,11±17,29 | 0,98 | > 0,05  |
|          |                              | E                     | 1275,20±17,12          | 1338,23±16,99 | 4,31 | < 0,01  |
|          |                              | t                     | 0,15                   | 2,75          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |

**Table 3. Dynamics of specific physical training evaluation of players specialized as midfielder**

| Nr. Ctr. | TESTS                        | Groups and Statistics | Statistical indicators |               |      |         |
|----------|------------------------------|-----------------------|------------------------|---------------|------|---------|
|          |                              |                       | Initial                | Final         | t    | P       |
| 1        | Running 10 m (sec)           | M                     | 1,90±0,04              | 1,88±0,03     | 0,67 | > 0,05  |
|          |                              | E                     | 1,88±0,04              | 1,83±0,02     | 1,66 | > 0,05  |
|          |                              | t                     | 0,33                   | 1,15          | —    | —       |
|          |                              | P                     | > 0,05                 | > 0,05        | —    | —       |
| 2        | Running 30 m (sec)           | M                     | 4,70±0,08              | 4,63±0,07     | 1,17 | > 0,05  |
|          |                              | E                     | 4,74±0,09              | 4,41±0,06     | 4,71 | < 0,01  |
|          |                              | t                     | 0,33                   | 2,44          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 3        | Running 180 m (sec)          | M                     | 44,42±0,44             | 44,01±0,42    | 1,11 | > 0,05  |
|          |                              | E                     | 44,55±0,47             | 42,71±0,40    | 4,84 | < 0,001 |
|          |                              | t                     | 0,20                   | 2,24          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 4        | Long jump from standing (cm) | M                     | 195,88±3,68            | 199,34±3,66   | 1,10 | > 0,05  |
|          |                              | E                     | 196,40±3,68            | 211,04±3,60   | 4,69 | < 0,01  |
|          |                              | t                     | 0,09                   | 2,28          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 5        | Running 6 min (m)            | M                     | 1264,20±16,73          | 1280,41±16,68 | 1,13 | > 0,05  |
|          |                              | E                     | 1278,86±16,70          | 1333,21±16,66 | 3,80 | < 0,01  |
|          |                              | t                     | 0,62                   | 2,24          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |

**Table 4. Dynamics of specific physical training evaluation of players specialized as forward**

| Nr. ctr. | TESTS                        | Groups and Statistics | Statistical indicators |               |      |         |
|----------|------------------------------|-----------------------|------------------------|---------------|------|---------|
|          |                              |                       | Initial                | Final         | t    | P       |
| 1        | Running 10 m (sec)           | M                     | 1,91±0,04              | 1,89±0,04     | 0,66 | > 0,05  |
|          |                              | E                     | 1,90±0,04              | 1,85±0,03     | 1,67 | > 0,05  |
|          |                              | t                     | 0,17                   | 0,80          | —    | —       |
|          |                              | P                     | > 0,05                 | > 0,05        | —    | —       |
| 2        | Running 30 m (sec)           | M                     | 4,83±0,11              | 4,72±0,10     | 1,37 | > 0,05  |
|          |                              | E                     | 4,78±0,10              | 4,43±0,08     | 5,00 | < 0,01  |
|          |                              | t                     | 0,33                   | 2,23          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 3        | Running 180 m (sec)          | M                     | 44,37±0,48             | 44,01±0,47    | 1,00 | > 0,05  |
|          |                              | E                     | 44,49±0,48             | 42,52±0,45    | 5,47 | < 0,001 |
|          |                              | t                     | 0,20                   | 2,24          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 4        | Long jump from standing (cm) | M                     | 198,00±3,76            | 201,08±3,74   | 1,07 | > 0,05  |
|          |                              | E                     | 198,25±3,79            | 212,80±3,66   | 5,10 | < 0,01  |
|          |                              | t                     | 0,16                   | 2,24          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |
| 5        | Running 6 min (m)            | M                     | 1260,62±18,34          | 1273,46±18,10 | 0,92 | > 0,05  |
|          |                              | E                     | 1271,30±18,49          | 1334,66±17,97 | 4,54 | < 0,01  |
|          |                              | t                     | 0,41                   | 2,40          | —    | —       |
|          |                              | P                     | > 0,05                 | < 0,05        | —    | —       |

Further we analyze the results of specific physical training of junior footballers during a competitive year after the experimental program application. For this reason footballers from EG and CG were tested for several motor parameters at the beginning (I.T.) and the end (F.T.) of the formative experiment. In order to prove the made hypothesis, we continue with a thorough analysis of the obtained results analyzing the tests for evaluation the level of specific physical training at the final test in comparison with the initial test at the ascertaining experiment.

The speed at 10 m running has been evaluating for determining the start speed that young footballers need during the game to break away from the adversary. At first sight there is an improvement in the average values of young footballers of all positions in the field. If at the I.T. the training level was medium and below it, then after F.T. the level has been increased to good rating, due to proper application of the means of training. The young footballers of CG after F.T. have increased the specific physical training level to average rating.

Analyzing the obtained data based on player's field positions we can mention with certainty that young footballers from EG have achieved notable results in most tested indices but not significant. This phenomenon is because of the fact that at this age the speed increases

only under the influence of applied means, but the results aren't convincing. For young footballers from EG the time for distance running has been reduced with 0,05sec for goalkeeper, which is confirmed by average values of  $1.84 \pm 0,03$ sec at F.T. compared to  $1.89 \pm 0.04$  sec at I.T., where  $t = 2.50$  but  $P > 0.01$ ; 0,06 sec have been reduced for full-back position, which is confirmed by average values of  $1.82 \pm 0,03$ sec at F.T. compared to  $1.88 \pm 0,04$  sec at I.T, where  $t = 2.00$  but  $P > 0.01$ ; 0,05 sec have been reduced for midfielder position, which is confirmed by average values of  $1.83 \pm 0,02$ sec at F.T. compared to  $1.88 \pm 0.04$  sec at I.T. where  $t = 1.66$  but  $P > 0.05$ ; 0,05 sec have been reduced for forward position, which is confirmed by average values of  $1.85 \pm 0,03$  sec at F.T. compared to  $1.90 \pm 0.04$  sec at I.T., where  $t = 1.67$  but  $P > 0.05$ .

For CG an average increase was noticed too, 0,03 sec for goalkeepers, recording average values of  $1.87 \pm 0,04$ sec at F.T. compared to  $1.90 \pm 0.04$  sec at I.T. where  $t = 1.25$  but  $P > 0.05$ ; 0,05 sec have been reduced for full-back position with average values of  $1.84 \pm 0,03$ sec at F.T. compared to  $1.89 \pm 0.04$  sec at I.T., where  $t = 1.67$  but  $P > 0.05$ ; 0,02 sec have been reduced for midfielder position with average values of  $1.88 \pm 0.03$ sec at F.T. compared to  $1.90 \pm 0.04$  sec at I.T., where  $t = 0.67$  but  $P > 0.05$ ; 0,02 sec have been reduced for forward position with average values of  $1.89 \pm 0.04$ sec at F.T. compared to  $1.91 \pm 0.04$  sec at I.T., where  $t = 0.66$  but  $P > 0.05$ . However this increase isn't significant.

The analysis of acceleration capacity and speed over distance has been performed by crossing a distance of 30 m. The results show that means planned during the competitive year have been beneficial. A significant increase has been noticed for young footballers from EG at F.T. in comparison with I.T. The evaluation of time for crossing a distance of 30 m enables us to note how young footballers solve successfully and resultative the technical and tactical actions occurred in the game situations by winning direct duels. The average values for crossing this distance have been reduced for all field positions in the game.

A more obvious increase is noticed at young fullback footballers improving the time for crossing the distance by 0.42 sec with average values of  $4.38 \pm 0.08$  sec compared to  $4.80 \pm 0.11$ sec, where  $t = 5.25$  but  $P < 0.001$ . They are followed by young footballers specialized as forward with an improvement of 0.35 sec with average values of  $4.43 \pm 0,08$ sec compared to  $4.78 \pm 0,10$ sec, where  $t = 5.00$ ,  $P < 0.01$ , then young players specialized as midfielder with an improvement of 0.33 sec, with average values of  $4.41 \pm 0,06$ sec compared to  $4.74 \pm 0,09$ sec, where  $t = 4.71$  and

$P < 0.01$  and young footballers specialized as goalkeeper with an improvement of 0.30 sec, with average values of  $4.50 \pm 0,07\text{sec}$  compared to  $4.80 \pm 0,08\text{sec}$ , where  $t = 6.00$  and  $P < 0.01$ .

The obtained data highlights the effectiveness of training means of young footballers specialized as full-back that actually corresponds with the reality of football game to counterattack the opponent actions.

It is necessary to mention the fact that young footballers from CG of all field' positions in the game have reduced the time of crossing 30 m distance improving the average values. Thus, the average values of young players specialized as full-back have been improved by 0.10 sec, where  $t = 1.25$  and  $P > 0.05$ ; the average values of young footballers specialized as forward have been improved by 0.11 sec, where  $t = 1.37$  and  $P > 0.05$ ; the average values of young footballers specialized as midfielder have been improved by 0.07 sec, where  $t = 1.20$  and  $P > 0.05$ ; and the average values of young footballers specialized as goalkeeper have been improved by 0.06 sec, where  $t = 1.17$  and  $P > 0.05$ , but these results aren't significant.

Referring to the values related to the media of young footballers at F.T. we can conclude the following. The difference of the tested indices is significant and denotes the correctness of means application for developing the capacity of the distance acceleration. These means had a stronger effect on young footballers from EG specialized as forward, who have crossed the distance by 0.29 sec faster, with average values of  $4.43 \pm 0.08$  sec compared to  $4.72 \pm 0.10$  sec, where  $t = 2.23$  and  $P < 0.05$ , then young players specialized as full-back, who managed to cross the distance by 0.28 sec faster, with average values of  $4.38 \pm 0.08$  sec compared to  $4.66 \pm 0.09$  sec, where  $t = 2.33$  and  $P < 0.05$ , followed by young footballers specialized as goalkeeper who managed to cross the given distance by 0.26 sec faster, with average values of  $4.50 \pm 0.07$  sec compared to  $4.76 \pm 0.08$  sec, where  $t = 2.36$ ,  $P < 0.05$  and young footballers specialized as midfielder, who managed to cross the given distance by 0.21 sec faster, having the average values of  $4.41 \pm 0.06$  sec compared to  $4.63 \pm 0.07$  sec, where  $t = 2.44$ ,  $P < 0.05$ .

Better results have been showed by young footballers from EG, specialized as full-back with average values of  $4.38 \pm 0.08$  sec, followed by midfielders with average values of  $4.41 \pm 0.06$  sec, the forwards with average values of  $4.43 \pm 0.08$  sec and the goalkeepers with average values of  $4.50 \pm 0.07$  sec. These average values are between the limits of average rating and shows that there are sources for improving this parameter in the future.

Regarding the evaluation test of special running resistance at 180 m, we can notice the positive effects on young players of applied means during the yearly cycle. Starting from the idea that special resistance plays an important role during the game and allow young footballers to face climatic conditions, the adversary, the land and also to confirm their capabilities from physical and technical-tactical aspects.

A high-level training regarding the special resistance is required from the young footballers specialized as midfielder because the course and game result depend largely on their aptitudes and skills.

Analyzing the results of F.T. we can mention that the time of crossing the distance of 180 m has been improved by 1.97 sec for young footballers specialized as forward with average values of  $42.52 \pm 0.45$  sec compared to  $44.49 \pm 0.48$  sec, where  $t = 5.47$  and  $P < 0.001$ , followed by young footballers specialized as midfielder with 1.84 sec and average values of  $42.71 \pm 0.40$  sec compared to  $44.55 \pm 0.47$  sec, where  $t = 4.84$  and  $P < 0.001$ , then the young players specialized as full-back with 1.68 sec and average values of  $42.72 \pm 0.43$  sec compared to  $44.40 \pm 0.46$  sec, where  $t = 4.42$  and  $P < 0.01$ , and the young footballers specialized as goalkeeper with 1,58 sec and average values of  $42.78 \pm 0.42$  sec compared to  $44.36 \pm 0.45$  sec, where  $t = 5.85$  and  $P < 0.01$ .

These results demonstrate a more efficient training of the young footballers specialized as forward with an average of  $42.52 \pm 0.45$  sec, followed by young footballers specialized as midfielder with  $42.71 \pm 0.40$  sec, then the young footballers specialized as full-back with  $42.72 \pm 0.43$  sec and the young footballers specialized as goalkeeper with  $42.78 \pm 0.42$  sec, which correspond to a good rate, which shows a substantial training in this meaning.

Comparing the data from the F.T. between the EG and CG we can say that the average values of the young footballers of all field positions have been improved. The young footballers from EG have achieved better indicators of value due to the correct application of means during the competitive year, which act namely on this quality.

The recorded results based on player's field positions enable us to confirm with certainty that the average values obtained are significant. F.T. data indicate an improvement of 1.49 sec at the young footballers specialized as forward with average values of  $42.52 \pm 0.45$  sec for EG, compared to  $44.01 \pm 0.47$  sec for CG, where  $t = 2.24$  and  $P < 0.05$ ; then 1.48 sec at the young footballers specialized as goalkeeper with average values of  $42.78 \pm 0.42$  sec for EG compared to  $44.20 \pm 0.44$  sec for CG, where  $t = 2.33$  and  $P < 0.05$ ; 1.36 sec at the young footballers specialized



as full-back with average values of  $42.72 \pm 0.43$  sec for EG compared to  $44.08 \pm 0.45$  sec for CG, where  $t = 2.19$  and  $P < 0.05$ ; and 1.30 sec at the young footballers specialized as midfielder with average values of  $42.71 \pm 0.40$  sec for EG compared to  $44.01 \pm 0.48$  sec for CG, where  $t = 2.24$  and  $P < 0.05$ .

The significance of obtained data by young footballers has been manifested in technical - tactical actions succeeded during the official matches.

Regarding the long jump test from standing and the evaluation of explosive force, the same increase of average values is noticed between the initial and final testing of both experimental group and control group. From provided data we notice that the young footballers from EG have demonstrated remarkable results in most evaluated tests. We can remark the young footballers specialized as forward with average values of  $212.80 \pm 3.66$  cm at F.T. compared to  $198.25 \pm 3.79$  cm at I.T. where  $t = 5.10$  and  $P < 0.01$ ; followed by the young players specialized as goalkeeper with average values of  $211.38 \pm 3.65$  cm at F.T. reported to  $197.83 \pm 3.71$  cm at I.T., where  $t = 5.99$  and  $P < 0.01$ ; as follows the young footballers specialized as full-back with average values of  $211.26 \pm 3.68$  cm at F.T. compared to  $195.80 \pm 3.75$  cm at I.T., where  $t = 4.84$  and  $P < 0.001$ ; and young footballers specialized as midfielder with average values of  $211.04 \pm 3.60$  cm at F.T. reported to  $196.40 \pm 3.68$  cm at I.T., where  $t = 4.69$  and  $P < 0.01$ .

In comparison with I.T. the indices have risen by 15.46 at the position of full-back, by 14.64 cm at the position of midfielder, by 14.55 cm at the position of forward and by 13.55 cm at the position of goalkeeper. The increase of CG young footballers is insignificant and it is only 2.54 cm for the position of goalkeeper, 3.77 cm for the position of full-back, 3.46 cm for the position of midfielder and 3.08 cm for the position of forward.

The average values of young footballers are between  $199.21 \pm 3.68$  cm at F.T. compared to  $196.67 \pm 3.70$  cm at I.T. where  $t = 1.12$  and  $P > 0.05$  for goalkeepers,  $198.67 \pm 3.70$  cm at F.T. compared to  $194.90 \pm 3.73$  cm at I.T. where  $t = 1.18$  and  $P > 0.05$  for the full-backs,  $199.34 \pm 3.66$  cm at F.T. compared to  $195.88 \pm 3.68$  cm T.I. where  $t = 1.10$  and  $P > 0.05$  for midfielders and  $201.08 \pm 3.74$  cm at F.T. compared to  $198.00 \pm 3.76$  cm at I.T. where  $t = 1.07$  and  $P > 0.05$  for forwards.

Analyzing the effects of the correct application of developing means for explosive force after the ascertaining experiment we can conclude that young footballers from EG have demonstrated better

results than those from the control group. If we analyze the player's field positions in the game, we can observe a greater difference in the tested indices, such as 12.59 cm for full-backs with average values of  $211.26 \pm 3,68$ cm for EG compared to  $198.67 \pm 3,71$ cm for CG, where  $t = 2.41$ ,  $P < 0.05$ ; by 12.17 cm for goalkeepers with average values of  $211.38 \pm 3,65$ cm for E.G. compared to  $199.21 \pm 3,68$ cm for CG, where  $t = 2.35$  and  $P < 0.05$ ; by 11.72 cm for forwards with average values of  $212.80 \pm 3,66$ cm for EG compared to  $201.08 \pm 3,74$ cm for CG, where  $t = 2.24$ ,  $P < 0.05$  and by 11.70 cm for midfielders with average values of  $211.04 \pm 3,60$ cm for EG compared to  $199.34 \pm 3.66$  cm for CG, where  $t = 2.28$ ,  $P < 0.05$ .

According to the scale of training level evaluation the young footballers from EG class have reached the best rate at F.T., which shows the correct application of the means which influence the development of the required qualities of young footballers.

The most representative example is the resistance indicator for 6 minutes running test. The average values obtained by young footballers according to their field position in the game show an evolution for all participants compared to normative requirements imposed by M.F.F. and CPTF Zimbru.

Thus, we have recorded an ascending dynamics and improvement of the resistance capacity of young footballers from EG of 62.34 m in average for the position of goalkeeper, 75.70 m for the position of full-back, 96.67 m for the position of midfielder and 71.41 m for the position of forward.

Comparing the average values of young footballers according to their field position in the game we can notice a significant increase for young players from EG: goalkeepers with average values of  $1330.15 \pm 16,74$ m at F.T. compared to  $1270.58 \pm 16,82$ m at I.T., where  $t = 5.38$  and  $P < 0.01$ ; full-backs with average values of  $1338.23 \pm 16,99$ m at F. T. compared to  $1275.20 \pm 17,12$ m at I.T., where  $t = 4.31$ ,  $P < 0.01$ ; the midfielders with average values of  $1333.21 \pm 16,66$ m at F.T. compared to  $1278.86 \pm 16.70$  m at I.T., where  $t = 3.80$  and  $P < 0.01$ , and forwards with average values of  $1334.66 \pm 17.97$  m at F.T. compared to  $1271.30 \pm 18.49$  m. at I.T., where  $t = 4.54$ ,  $P < 0.01$ .

Comparing the results of CG young footballers of all field positions in the game we can conclude that resistance running results are lower than the results of EG, so an improvement of 7.34 m has been recorded for goalkeepers, with average values of  $1276.78 \pm 16.80$  m at F.T. compared to  $1269.44 \pm 16.85$  m at I.T., where  $t = 0.71$ ,  $P > 0.05$ , the

position of full-back has recorded an improvement of 14.56 m with average values of  $1286.11 \pm 17.29$  m at F.T. compared to  $1271.55 \pm 17.35$  m at I.T., where  $t = 0.98$  and  $P > 0.05$ , the position of midfielder has recorded an improvement of 16.21 m. with average values of  $1280.41 \pm 16.68$  m at F.T. compared to  $1264.20 \pm 16.73$  m at I.T., where  $t = 1.13$ ,  $P > 0.05$  and the forward position has been improved by 12.84 m with average values of  $1273.46 \pm 18.10$  m at F.T. compared to  $1260.62 \pm 18.34$  m at I.T., where  $t = 0.92$ ,  $P > 0.05$ , this decline of resistance can't diminish the professional level of young players mentioned above.

Comparing the indices of general resistance at F.T. of those two groups involved in the pedagogical experiment we can note a significant increase of young footballers' results from EG playing in all positions. There is an upward dynamics and improvement of resistance capacity on average by 53.37 m for the goalkeeper position with average values of  $1330.15 \pm 16.74$  m for EG compared to  $1276.78 \pm 16.80$  m for CG, where  $t = 2.25$ ,  $P < 0.05$ , by 52.12 m for the full-back position with average values of  $1338.23 \pm 16.99$  m for EG compared to  $1286.11 \pm 17.29$  m for CG, where  $t = 2.75$ ,  $P < 0.05$ , by 52.80 m for midfielder position with average values of  $1333.21 \pm 16.66$  m for EG compared to  $1280.41 \pm 16.68$  m CG, where  $t = 2.24$ ,  $P < 0.05$  and by 61.20 m for forward position with average values of  $1334.66 \pm 17.97$  m for EG compared to  $1273.46 \pm 18.10$  m. for CG, where  $t = 2.40$ ,  $P < 0.05$ . These results highlight the importance and necessity of continuing a high-level training program after predetermined planning, so that the effort will cause pleasure for players and free of stress factors.

Therefore, the application of experimental program in the formative experiment, where the focus has been put on differentiated motor training, has clearly proved its effectiveness through achieved results in most tested indicators and parameters. First of all, we refer to the increasing developmental level of the motor parameters, where footballers from the experimental group have improved significantly their performance in most of the submitted tests in the educational research.

From the above, we can conclude firmly that the functions of the game position have a major impact on special physical training at the age of 12-13 already, and at the age of 14 some indices gain concrete outline and differ significantly.

The full-backs have the same level of speed capacity indicators (at start and on the distance) as those of midfielders. In general, the level of

full-backs' special physical qualities can be characterized as rather high for this age.

Regarding the goalkeepers, jump off place indices are superior to other indices registered at other players of different game positions.

From the above mentioned, we can see that already at the age of 13-14 the field position in the game of each player is outlined [10], while the training and competitive activity have a beneficial effect on the structure of specific physical training and effort capacity for each player [4,9,10].

This can be explained by the fact that there aren't any differentiations of physical effort as volume and intensity during the entire process of training young footballers of different game positions. This is confirmed by the coaches of the children and junior teams of national championship of Moldova, who don't plan and don't intend to plan such a differentiation in training the football reserves. Therefore, the functional characteristics of players are formed only in the competitive activity and in time become their defined specialization based on the field position in the game.

Analyzing the results obtained by young footballers of all levels, we can mention that the general and specific physical training is at the medium level and within the limits of age-specific indices. However, there are sufficient reserves for improving these indices either of the teams in general or in a differentiated way on player's field position in the game, because the level of motor training, in most cases, for 12-13 year-old young players of different positions is decisive in the dispute of a match or football tournament, especially for junior teams.

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#### **ANALIZA INDICILOR PREGĂTIRII FIZICE SPECIFICE ÎNTR-UN CICLUL ANNUAL DE PREGĂTIRE A TINERILOR FOTBALIȘTI PE DIFERITE POSTURI DE JOC.**

**Cuvinte cheie:** jucători de fotbal, pregătirea fizică specifică diferențiată, posture de joc, categorie de vîrstă.

**Rezumat:** Valorificarea procesului de instruire a copiilor și juniorilor ce practică fotbalul reprezintă un fenomen complex, care impune soluții de instruire bazate pe multiple informații, experimente, cercetări, studii și are o serie de caracteristice, datorate mai ales particularităților pe care le prezintă diversele perioade ale dezvoltării lor. Acesta și este motivul pentru care am abordat problema pregătirii fizice speciale diferențiate la vârsta de 13-14 ani.

Problema științifică actual de importanță majoră în domeniul cercetat vizează o abordare diferențiată a evaluării și dezvoltării calităților fizice speciale ale tinerilor fotbaliști, care va optimiza procesul de pregătire și va spori eficacitatea acestuia.

Ca urmare a analizei literaturii de specialitate, a observațiilor metodologice și pedagogice sesuzate pe parcursul experimentului, în baza datelor cercetării, au fost stabilite prioritățile deja cunoscute asupra nivelului de dezvoltare a calităților fizice specific tinerilor fotbaliști pe diferite posturi, modalitățile de manifestare care determină nivelul pregătirii specifice diferențiate pe durata anuală de pregătire, care, la rândul lor, extind și completează dispozițiile existente în domeniul teoriei și metodicii antrenamentului sportive la fotbal.