

CONTRIBUTIONS TO THE DEVELOPMENT OF RESISTANCE IN THE YOUTH VOLLEYBALL PLAYERS (15-16 YEARS)

COJOCARU ADIN-MARIAN^{1*}, COJOCARU MARILENA¹

ABSTRACT. Introduction: The need to know the characteristics of the current model of the game's development trends and elements of progress is an essential requirement then the coach must always be guided. Sports training contents must always be improved by updating and enriching the news, so that they can meet existing training and competition in the current model and future expected level (group) training respectively. **Objectives:** Optimizing the training of volleyball players to improve general and specific resistance. **Methods:** The following methods were used namely research and bibliographic documentation method, observation method, driving tests, mathematical method - statistical, graphical method. The comparative results with model selection and model motor model developed by FRV game differences recorded quite noticeable, especially in technical evidence. This approach requires a new strategy to achieve the objectives of training, improvement of the set of means used and not least the emphasis will be on individual instruction to players, even if they team depend on each other in achieving phase of game. **Conclusions:** The means selected to achieve the objectives were effective, well-dosed, it highlighted the progress and the quality of execution of techniques.

Keywords: *resistance, volleyball, player, development of motricity*

REZUMAT. Contribuții privind dezvoltarea rezistenței jucătorilor de volei la nivelul cadeți (15-16 ani). Introducere: Necesitatea cunoașterii caracteristicilor actualului model de joc, a tendințelor lui de dezvoltare și a elementelor de progres constituie o cerință esențială după care antrenorul trebuie permanent să se orienteze. Conținuturile instruirii sportive trebuie să fie permanent îmbunătățite prin reactualizarea și îmbogățirea cu noutăți, în așa fel încât să se poată îndeplini cerințele de pregătire și concurs existente în modelul actual și de perspectivă, preconizat pentru nivelul (grupa) respectiv de instruire. **Obiective:** Optimizarea procesului de instruire a jucătorilor de volei în vederea îmbunătățirii rezistenței generale și specifice. **Metode:** Au fost utilizate următoarele metode de cercetare și

¹ *Spiru Haret University, Bucharest, Romania*

* *Corresponding Author: adincojocaru@yahoo.com*

anume metoda de documentare bibliografică, observația, metoda testelor motrice, metoda matematico – statistică, metoda grafică. Rezultatele comparative cu modelul de selecție, modelul motric și modelul de joc elaborat de F.R.V. înregistrează diferențe destul de vizibile, mai ales la probele tehnice. Acest lucru impune abordarea unei noi strategii în vederea realizării obiectivelor antrenamentului, îmbunătățirea setului de mijloace utilizat și nu în ultimul rând se va pune accent pe instruirea individuală a jucătorilor, chiar dacă aceștia în echipă depind unul de celălalt în realizarea fazelor de joc. **Concluzii:** Mijloacele selecționate pentru realizarea obiectivelor au fost eficiente, bine dozate, lucru reliefat de progresul obținut cât și de calitatea execuțiilor procedeele tehnice.

***Cuvinte cheie:** rezistență, volei, jucător, dezvoltare motrică*

Introduction

Characteristics generalizes various schools volleyball players worldwide. Increased height of players coupled with particular strength in attack and defense with an emphasis on blocking, promoted by the European School, along with organizing varied and fast attack with acrobatic game on defense and efficient line II promoted Asian School are strategic attributes propagated to the current volleyball (Cojocaru & Cojocaru, 2009).

Physical training should achieve a high level of specific motor capacity development which is manifested through technical and tactical possibilities perfect needed volleyball player (Bril & Kleshev, 1988).

The orientation of physical training should be done considering the other components of the preparation (technical, tactical and mental), its contribution in strengthening and recovery efficiency is very technical and tactical. It becomes obvious need to apply the principle of concentric training (Ghenadi, 1984).

Hypotheses research

It was assumed that, using methods, techniques and specific means adapted to the particularities players cadets will achieve its objectives and thus will improve the quality of motor strength, specific volleyball game.

The research purpose is to optimize training volleyball players to improve general and specific resistance.

Materials and methods

- ⇒ organizing research experiment and determining sample;
- ⇒ studying literature and selecting the main means of achieving training model;
- ⇒ establish research and investigative methods to be used during the experiment;
- ⇒ establish evaluation criteria;
- ⇒ final evaluation sample from the application model training;
- ⇒ initial and final processing of results and comparative analysis of results;
- ⇒ validate assumptions, conclusions.

During the experiment, the following methods were used for research:

- a) bibliographic documentation method;
- b) observation;
- c) motility test method;
- d) mathematical method - statistical;
- e) graphical method;

The experiment was organized in CS Steaua Bucharest team boys youth, aged 15-16 years.

The experiment was conducted over a period of one school year (2013/2014) and aimed at improving physical training volleyball players and especially the quality of the driving resistance.

Included in the research sample was composed of a group of 24 volleyball players cadets category, a fairly large group, which is explained by the three age categories: 15, 16 years.

During the training was intended to train all players to target all components of athletic training, the focus is put on physical training and hence development of resistance, and in May were reapplied control samples in order to ascertain the progress made the first test, but the differences between the final result and the model presented by Romanian Federation and Volleyball this category is age.

Methods and means used were those recommended by the literature.

It insisted on preparing both individual and collective players.

Towards the end of this period, after the age of 15 years may be given particular attention to developing overall strength and resistance under specific speed training is individualized for high - speed under stress and shooters - resistance regime jump. Amid a general training, specific training is performed (Bompa, 2003).

Development of resistance involves using several methods, employing only one not able to determine the corresponding effects (Baechle & Earle, 2000). Moreover, the outstanding results obtained in the tests demonstrate the usefulness of the resistance of the track to a wide variety of methods.

- a) training method variable;
- b) the method of hindering;
- c) a method of long-term effort;
- d) interval training;
- e) control method;
- f) method tempo;
- g) method the competition;
- h) training method in circuit.

Examples of exercises to develop strength

General Development of resistance

- ⇒ Running uniform tempo;
- ⇒ lengthy run with acceleration along the way;
- ⇒ running on varied terrain;
- ⇒ multiple technical replicates uniform tempo and even some acceleration;

Development of specific resistance

- ⇒ game, more sets (6-10);
- ⇒ game with a reduced squad;
- ⇒ game at end of training under conditions of tired;
- ⇒ game with shortening, number of sets, but with the introduction of fragments of game very fast tempo game with disabilities and reducing the duration of sets; play five alternating sets, each team starts with a lead of five points. Breaks between sets may be granted at the request of a team;
- ⇒ technical circuit: service pickup of service attack, lifting block (figure 1); will focus not only on fast tempo, but also a large percentage of executions as good;

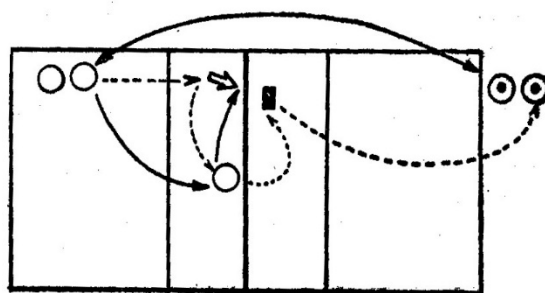


Fig. 1. Technical circuit

⇒ game 4-4 and the ball thrown normal (combined); play 4 sets to 11, the usual odd, the ball thrown by the husband. It will take account of methodical guidelines specified in the previous year.

Results

All subjects included in the survey results were recorded in the tables in Annex. To compare results using the arithmetic mean of the sample for each sample separately.

The results were analyzed and statistically, both initially and finally.

At the end of the experiment, the results are as follows:

Table 1. The somatic level

Nr. crt.	Sample	Testing initial	Testing Final	Progress	The Model of F.R.V.	The difference between the model and the final test
1.	Stature	162,8cm	165cm	2,2cm	177cm	12cm
2.	Weight	48,71kg	49,63kg	0,92kg	-	-
3.	Span arms	161,6	163,9	2,3cm	-	-
4.	Thoracic perimeter	68,2cm	71,5cm	3,3cm	-	-

Table 2. The motricity level

Nr. crt.	Sample	Testing initial	Testing Final	Progress	The Model of F.R.V.	The difference between the model and the final test
1.	Vertical Jump without elan	43,63cm	47,13cm	3,5cm	52cm	4,87cm
2.	Vertical Jump with elan	47,29cm	51,42cm	4,13cm	56cm	4,58cm
3.	Lateral displacements the 3meters, time 1 min	20,04	25,54	5,50	50	24,46
4.	Flexion of dorsal trunk	25,29	31,13	5,84	30	+1,13
5.	Triple jump length	5	6,33	1,33	10	3,67

Table 3. The technical level

Nr. crt.	Sample	Testing initial	Testing Final	Progress	The Model of F.R.V.	The difference between the model and the final test
1.	Service	5,12 good	5,91 good	0,79 good	10/10	4,09 good
2.	Reception from service	4,54 good	6,08 good	1,54 good	10/10	3,92 good
3.	Attack	4 good	5,5 good	1,5 good	10/10	4,5 good

Discussions

In the game, volleyball players running a large number of rapid movements (starts, shifts, stops, hitting the ball) combined with repeated jumping attack and block, acyclic movements made rounds of intense effort and interspersed with short breaks (Balaiş & Păcuraru, 1997).

Repeating these rounds very often in a match requires a specific resistance training. Resistance must be prepared according to the intensity and duration of exercise.

The fact that the movements are acyclic, complex and changing requirements for game development and maintenance of specific resistance is performed with some difficulty. Ensuring a sustainable overall resistance largely removes this difficulty.

The effort of the players on the front line is anaerobic and the second line, the effort is aerobic, so specific resistance training should take account of this aspect.

In general, the means for developing specific resistance must have a structure similar to volleyball, so it is recommended choice of means and performing typical volleyball match their speed or higher (Şerban, 1999).

Instability resistance requires specific volleyball and using their own means cyclic sports, to develop general strength (running the long-term average speed without acceleration and, skating and especially running on varied terrain).

Depending on the team, period, objective and based on the examples can also use other exercises or variations of those presented.

Lesson training must be organized, that duration is about 60 min (without heating), if the pulse goes up to 170 / min. If it is lower, 140 / min on average, the duration can be greater.

If the games are organized ball thrown phases of continuous play can be planned (reception, lift and attack, approximately 3 sec). Example of planning: 20-30-45-60-30-20-60-30 sec. etc (unequal halves, as in the game, their duration can be increased, but the kit will decrease compared to that in the game).

In order to improve specific resistance is recommended that parallel global influence to work and selectively game resistance lines I and II.

Conclusions

Analyzing each control sample in hand, in terms of initial and final notes:

- visible progress between the two tests, which demonstrates that the training was well planned and organized and use the most effective teaching tools.
- results with model selection and model motor model developed by FRV game differences recorded quite noticeable, especially in technical evidence. This approach requires a new strategy to achieve the objectives of training, improvement of the set of means used and not least the emphasis will be on individual instruction to players, even if they team depend on each other in achieving rally.
- means selected to achieve the objectives were effective, well-dosed, it highlighted the progress and the quality of execution of techniques.
- good selection of players, setting clear objectives, proper use of teaching strategies can lead to achieving the intended results.

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