

Tipo de artículo: Artículo original

Recibido: 23/02/2020

Aceptado: 28/07/2020

# La especialización de la preparación de fuerza para luchadores juveniles en una estructura de macrociclos integrados

## *The specialization of strength training for youth fighters in an integrated macrocycle structure*

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### Resumen

La presente investigación surge por la necesidad existente en la preparación de los luchadores de la categoría juvenil de la Escuela de Iniciación Deportiva Escolar “Héctor Ruíz” de Villa Clara de incrementar la especialización de su entrenamiento, en específico de la preparación de fuerza como capacidad determinante en su competición, y de incluir esta en la estructura de macrociclos integrados como modelo contemporáneo de estructuración del entrenamiento. Tiene como objetivo organizar los contenidos de los ejercicios complementarios de Lucha en sucesión e interrelación con las diferentes manifestaciones de la fuerza en la estructura de macrociclos integrados. Para su cumplimiento, mediante la técnica grupal tormenta de ideas, se determinan inicialmente los ejercicios complementarios y su agrupación en diferentes grupos, luego de la agrupación de los ejercicios se distribuyen mediante el enfoque sistémico en los diferentes macrociclos y fases de la estructura, garantizando su sucesión en el incremento de la especialización y su interrelación con la manifestación de la fuerza correspondiente en los macrociclos. La propuesta es evaluada por especialistas quienes emiten juicios favorables acerca del resultado obtenido.

**Palabras clave:** luchadores juveniles, especialización, fuerza, macrociclos integrados

### **Abstract**

*The present research arises from the existing need in the preparation of youth fighters category of Sports Initiation School "Hector Ruiz" from Villa Clara to increase the specialization of their training, specifically the preparation of strength as a determining ability in their competition, and to include this in the structure of integrated macro cycles as a contemporary model of training structuring. Its objective is to organize the contents of the Fighting complementary exercises in succession and interrelation with the different manifestations of the force in the structure of integrated macro cycles. For its fulfillment, by means of the group brainstorming technique, the complementary exercises are initially determined and their grouping into different groups, after the grouping of the exercises they are distributed through the systemic approach in the different macro cycles and phases of the structure, guaranteeing their succession in the increase in specialization and its interrelation with the manifestation of the corresponding force in the macrocycles. The proposal is evaluated by specialists who make favorable judgments about the result obtained.*

**Keywords:** youth fighters, specialization, strength, integrated macro cycles

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## **Introduction**

As a result of the research carried out by ReiB (1991), Navarro (1994, 2003), Costagliola (2014), some changes occurred in the contemporary conception of the organization of structures for the temporal distribution of training loads, emerging models with structured shorter training sessions, which were called "accentuated loads", these are also characterized by greater specialization and emphasis on content.

These load accentuation models are recommended for the stage called by Matveev (1983) of deep sports improvement, this is intermediate between the initiation stage, for which it is proposed to use the classic preparation models with diluted loads and the maximum performance stage in which concentrated load models should be used. In this way, with the accentuation of the force loads, the intensification of the conditional special preparation that youth fighters require in their development in the transition to high performance, would be achieved.

In the Olympic Fight, González's research (2013) stands out, in which a broad treatment is provided in the direction of planning, however, it does not address the process of specialization and accentuation in the preparation of the force in its entirety.

In the direction of the treatment of the components of physical preparation Carreño (2009) proposes a structure for physical preparation, however his research is directed to the training of school fighters, so he does not highlight the specialization or the accentuation required in youth ages.

On the other hand, Guevara, (2014) proposes actions for the effectiveness in technical movements standing at four points in school fighters related to force; López, (2016) determines dimensions and indicators in the teaching-learning process (TLP) in the Olympic Fight.

Fernández (2020) directs his research to the treatment of tactical preparation in combat sports, emphasizing sports Fighting, this author concludes that it is necessary for the teacher to have a scientific-methodological tool to develop the preparation process with a personalized character, which will make the process adjust to the characteristics and possibilities of each of the fighters.

In the 2016 Integral Athlete Preparation Program (IAPP), guidelines are given that prioritize general physical preparation; however, as in previous cases, the specialization of force preparation with the required accentuation of the loads for the youth category, has not been sufficiently addressed.

The authors of this study, in previous research, work on the methodological treatment that is carried out to plan the strength training in fighters aged 16-18 years in the Initiation Sports Schools (ISS) and subsequently propose procedures to contribute to the planning of muscle strength in relation to the improvement of the technique in young fighters, studies that constitutes antecedents of the present work.

However, these proposals are aimed at the development of the different manifestations of strength through exercises with weights, which follow and interconnect in the organization of the different macrocycles and phases of the structure, but have lacks of use of complementary fighting exercises in conjunction with exercises with weights to increase the necessary specialization in this category, in the development of the different manifestations of strength.

Taking into account the aforementioned and that according to Verjoschansky (1990) the criteria for the organization of the load are the temporal distribution and its succession and interrelation, the objective of the research was directed to: Organize the contents of the complementary fighting

exercises in succession and interrelation with the different manifestations of force in the structure of integrated macrocycles.

This study offers a proposal to structure training by means of the macro cycle integrated model with accentuated charges for fighters, in which the use of Fighting complementary exercises to develop the different forces.

## **Methodology**

Different methods of the theoretical level were used, it was also necessary to use brainstorming for the classification of the complementary exercises and their distribution in different groups. This group technique is usually an unstructured group interactive process to generate new and better ideas than those produced independently, thus taking advantage of the creative capacity of the participants.

For the selection of the coaches who participated in the sessions an intentional procedure was used, selecting in the province of Villa Clara those who fulfill the following criteria:

- Have 10 years or more of experience in category training.
- Have stability in the preparation of youth teams.
- Have a Bachelor Degree in Physical Culture.
- Have participated in the training of the fighters for the National High Performance Olympics.
- Systematically contribute fighters to the territorial ISS "Hector Ruiz" of Villa Clara.

12 trainers were selected, including 5 Wrestling trainers from different sports centers in the province, who come from the municipalities Santa Clara and Placetas, the four trainers from the Villa Clara ISS and the provincial commissioner. In addition, it was considered necessary due to the topics to address, the participation of two weightlifting teachers from the Faculty of Physical Culture, who met the first three requirements.

Through the systemic approach, the relationships and interdependencies between the determined complementary exercises and their interrelation with the manifestation of force developed in the macrocycles and its phases were established, as well as their succession to increase specialization.

The criterion of specialist was used to obtain their assessment on the determined exercises, their inclusion in the structure and their specialization. For this, 7 specialists were surveyed, including 3 members of the Technical Methodological Section of the province of Villa Clara, two professors of Fighting and two professors of Theory and methodology of sports training of the faculty of Physical Culture of the Universidad Central "Marta Abreu" de Las Villas. All of them with a Bachelor Degree in Physical Culture, with more than 10 years of experience and mastery of contemporary models of training structuring.

## Results and Discussion

### Classification of complementary exercises

Initially, there were defined as complementary exercises: those that, integrated with the rest of the technical-tactical ones of the youth fighter's training and, in interrelation with the manifestation of the force determined for the corresponding phase, would allow to increase the specialization of the force preparation and strengthen the muscles involved in the execution of the actions of the fighter.

From this, those exercises that would allow them to be a complement to the ones with weights for the wrestlers, and would increase the necessary specialized preparation in this category, were classified. In this way, the types of exercises shown in Figure 1 were classified.

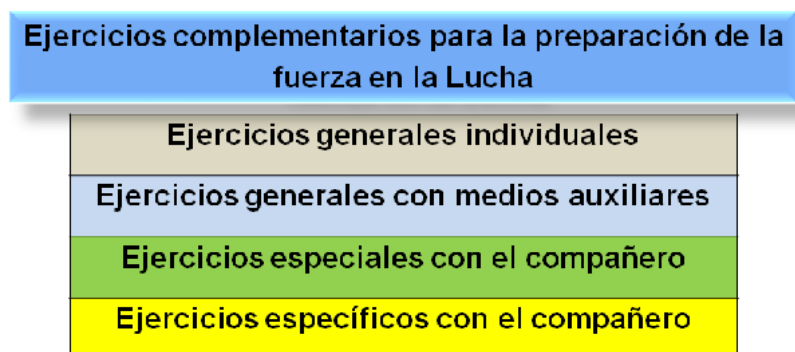


Figure 1. Classification of complementary exercises for strength training in youth wrestlers

After classifying the exercises in these five groups, they were distributed in the different macrocycles and phases of the two preparation cycles as shown in Figures 2 and 3.

## Distribution of complementary exercises

In figure 2 it is observed how in cycle I the specialization in the different phases is increased, starting with the individual general exercises and the exercises with auxiliary means, from the macrocycle II the specialization in the special phase is increased with the exercises with the partner in conjunction with the rapid force and ends with the specific exercises with the partner related to the resistance of the rapid force at the end of this macrocycle.

Both capabilities, rapid force and resistance to rapid force are determinants in the performance of the fighter. This increased specialization occurs to face the strongest preparatory competition in this cycle, at the end of macrocycle III, which is the Sancti Spiritus Cup.

| CICLOS          | CICLO I      |   |   |             |   |   |   |    |               |    |    |                |    |    |    |    |                |               |    |    |    |                    |    |    |    |  |    |
|-----------------|--------------|---|---|-------------|---|---|---|----|---------------|----|----|----------------|----|----|----|----|----------------|---------------|----|----|----|--------------------|----|----|----|--|----|
| MACROCICLO      | MACROCICLO I |   |   |             |   |   |   |    | MACROCICLO II |    |    |                |    |    |    |    | MACROCICLO III |               |    |    |    |                    |    |    |    |  |    |
| FASES           | General      |   |   | Específica  |   |   |   | M  | General       |    |    | Específica     |    |    |    |    | M              | General       |    |    |    | Específica         |    |    |    |  | M  |
| MICROCICLOS     | G            | G | G | E           | E | E | E | CP | G             | G  | G  | E              | E  | E  | E  | CP | G              | G             | G  | G  | E  | E                  | E  | E  | CP |  |    |
| SEMANAS         | 1            | 2 | 3 | 4           | 5 | 6 | 7 | 8  | 9             | 10 | 11 | 12             | 13 | 14 | 15 | 16 | 17             | 18            | 19 | 20 | 21 | 22                 | 23 | 24 | 25 |  |    |
| TIPOS DE FUERZA | Adaptación   |   |   | Res. Fuerza |   |   |   |    | Res. Fuerza.  |    |    | Fuerza rápida. |    |    |    |    |                | Fuerza rápida |    |    |    | Res. Fuerza Rápida |    |    |    |  |    |
| MEDIOS          | GI           |   |   | GMA         |   |   |   | FE | GMA           |    |    | EC             |    |    |    |    | FE             | GMA           |    |    |    | ESP C              |    |    |    |  | FE |
|                 |              |   |   | EC          |   |   |   |    | GI            |    |    |                |    |    |    |    |                | EC            |    |    |    |                    |    |    |    |  |    |

Figura 1. Distribution of complementary exercises in cycle I in relation to the type of force.

In figure 3 it can be seen how a greater specialization occurs, in general a large volume of exercises with the partner is used from the general phases of the two macrocycles and ends with specific exercises with the partner, together with resistance to quick force. It should be noted that at the end of macrocycle III there is the fundamental competence that is participation in the National Youth Olympics.

| CICLOS          | CICLO II      |    |    |    |                    |    |    |    |    |             |              |    |                    |    |    |    |    |
|-----------------|---------------|----|----|----|--------------------|----|----|----|----|-------------|--------------|----|--------------------|----|----|----|----|
| MACROCICLO      | MACROCICLO IV |    |    |    |                    |    |    |    |    |             | MACROCICLO V |    |                    |    |    |    |    |
| FASES           | General       |    |    |    | Específica         |    |    |    | M  | General     |              |    | Específica         |    |    |    | M  |
| MICRO           | G             | G  | G  | G  | E                  | E  | E  | E  | C  | G           | G            | G  | E                  | E  | E  | E  | C  |
| SEMANAS         | 26            | 27 | 28 | 29 | 30                 | 31 | 32 | 33 | 34 | 35          | 36           | 37 | 38                 | 39 | 40 | 41 |    |
| TIPOS DE FUERZA | Fuerza Rápida |    |    |    | Res. Fuerza Rápida |    |    |    |    | Res. Fuerza |              |    | Res. Fuerza Rápida |    |    |    |    |
| MEDIOS          | EC            |    |    |    | ESP C              |    |    |    | FE | EC          |              |    | ESP C              |    |    |    | FE |
|                 | GMA           |    |    |    |                    |    |    |    |    | ESP C       |              |    |                    |    |    |    |    |

Figura 3. Distribution of complementary exercises in cycle II in relation to the type of force.

Subsequently, proposals for different exercises were made for each of the classifications and ideas were proposed about their dosage and integration into the structure of integrated macrocycles, results that are shown below.

#### Determination of complementary exercises

##### General individual exercises (GI)

These exercises should be used in the general phases of the integrated macrocycles I and II, they are, push-ups (planks) open, closed, underwater, with claps and with one arm; Squats and front jumps, sit-ups and their variants, hyperextensions and neck exercises, fixed and parallel bars. Its dosage will be between 10-15 repetitions, the series between one and five and the rest between one and three minutes. Other exercises may be used depending on the needs of the fighters and the experience of the coach.

##### General exercises with auxiliary means (GEAM)

These exercises will be used in the specific phase of macrocycle I combined with the special exercises with the partner; for the general phase of macrocycle II this group of exercises will be combined with the individual general exercises, while in the general phase of the integrated macrocycle III they will be combined with the special exercises with the partner. These are rope climbing, jumps to the side and over a partner and / or obstacles, exercises with pulleys, with gymnastic apparatus (fixed bar and parallel bars), with medicine balls, rubber bands and dolls.

##### Special exercises with the partner (SP)

These exercises are proposed for the specific phases of the integrated macrocycles I and II and the general phase of the macrocycles III, IV and V, whose objective was to maintain the levels of resistance to force, fast force and resistance to fast force with the specific efforts of the Greco-Roman Struggle.

These exercises were: flexion of the arms lying down with resistance from the partner, walking in wheelbarrows (prone and supine), push-ups in the handstand, walking with the partner held on his

side, turn with the partner's turkish grip on the place, take off of the partner with arm and thigh grip, alternate arch with grip of the partner's waist, take entry through the partner's trunk, roll entry on both sides taking off the partner.

Its dosage will be between eight and 12 repetitions, with series between one and three and the rest between one and three minutes. Other exercises can be used according to the individual needs of the fighters, the experience of the coach and the guidance in the ISPP(2016).

#### Specific exercises with the partner (SEP)

These exercises were determined for the specific phase of the integrated macrocycles III, IV and V, whose objective was to maintain the strength levels in the resistance to the rapid force of the specific efforts of the Greco-Roman Wrestling.

These exercises were: supplement with partner (10 repetitions in 15 seconds), take to the trunk in 15 seconds (greater number of repetitions), 10-meter race with the partner, projections in movement and return in horizontal jump, abdominal in four points above of the partner, arching on the mattress, arching with a partner's grip until reaching the neck bridge, viola jump, passing between legs and take of another partner, wrestling match on the court.

Its dosage will be between 8-10 repetitions, with series between one and two and the rest between one and two minutes. Other exercises can be used according to the individual needs of the fighters, the experience of the coach and the guidance in the ISPP(2016).

The selected specialists agreed to positively recognize the organization of the proposed complementary exercises, demonstrating the importance that they attribute to it from a practical point of view. In the same way, they considered their interrelation with the manifestations of force proposed in the structure, adequate, as well as their distribution and succession, observing the increase in their specialization as the structure progresses.

## Conclusions

It is necessary to modify the conception of the programming in the preparation of the force, by means of the interrelation of the complementary exercises of Fight with the exercises of Weights, so



as to guarantee in the structure a greater specialization and the correct succession and interconnection of the different manifestations of force.

The accentuation of the loads of the complementary exercises in the organization of the preparation of the strength of the youth fighters, will allow the necessary increase of the specialization, constituting a way for the development of the special force.

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