THE OPTIMIZATION OF GOALKEEPERS PHYSICAL TRAINING IN JUNIOR FOOTBALL PLAYERS

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Abstract. The identification of muscle training programs, adapted to the subject's age, to their physical training and specific sample or specific practice branch should be a constant concern of specialists in performance sports. This work falls in this direction, validating the goalkeeper physical training programs, aiming particularly at muscular force. There are two case studies whose muscular upper and lower limb was strongly influenced by the work program that was implemented, having in its structure exercises based on combinations of muscle contractions.
Keywords: *goalkeepers, football, force.*

Introduction

Physical training is defined both in terms of cause and effect. The effect of physical training refers to the physical and motor development opportunities of the individual attained as a result of systematic repetition of exercise. The cause is the sports training component consisting of motor skills development, the morpho-functional indexes of the organism, etc. and manifests itself in two ways: general physical training and multilateral specific physical preparation. [1] The physical training component generally "calls into question the overall potential of the individual [2] on the development of physical/ motor qualities, the increased functional capacity of the body to improve the body motor - skills and abilities of movement, making it able to ensure the prerequisites for the technical –tactical training.

Physical training means developing motor skills and capabilities of effort. The development of motor skills level is assessed on the interrelation between mass, space, time and motion-deployment effect through control tests, laboratory tests. [3,4]. During physical training, the muscle training is adapted to the requirements of the test or that branch in which that sport occupies a major role, given that force plays a crucial role in the expression of other motor qualities.

The identification of muscle training programs, adapted to the subject's age, their physical training level and to the specific tests or specific sports branch practice should be a constant concern of specialists in performance sports.

On this line, of the devising of muscle training programs and establishing those muscles that are the most effective in preparing the force for goalkeepers, the present paper content is targeting.

Methods

The research took place in the juniors football players training, two goalkeepers, that took force individualized training, being selected to increase their athletic performance. Thus, for 5 months, work programs, based on combined muscle contractions regimens have been implemented for the two goalkeepers, 2 times a week, 30 minutes / training.

The objectives of the training program were to increase the muscle mass of the lower body and that of the arms muscles.

Using tests in sport is of particular importance in achieving scientific research, through this method being applied the control tests proposed in this part of our research.

Throwing the 2kg medicinal ball with both hands from above forward

Long jump without impetus

Kicking the ball away with precision from drop (specific for goalkeepers).

Draw a corridor with a width of 10 m between the penalty surface lines of the two goals. The goalkeeper kicks the ball while running or walking from drop from the penalty area. They perform 3 attempts, we measure the distance traveled by the ball until touching the soil, but only within the corridor.

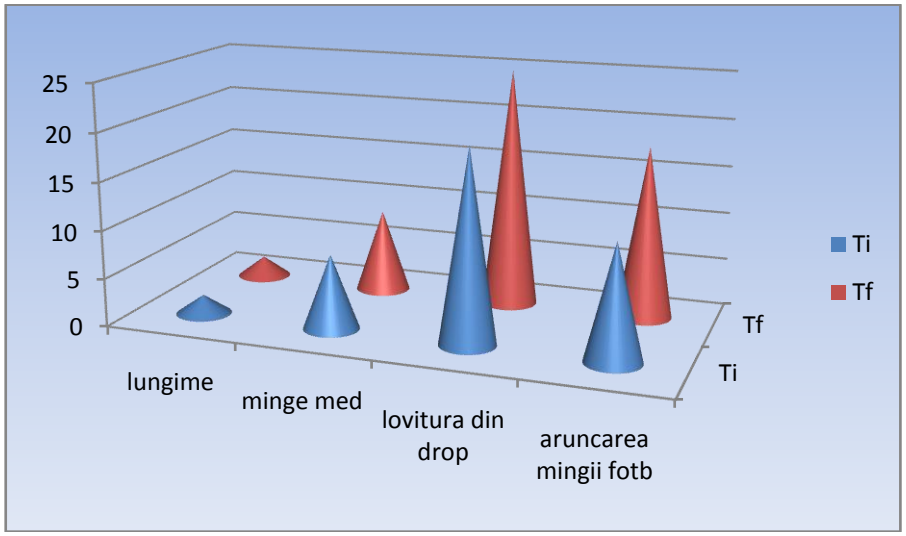
Throwing the ball away by hand (goalie).

Draw a corridor with a width of 3 m from the line marking the penalty area. The goalkeeper will throw the ball away with his hand on the go or while running. We measure the distance traveled by the ball until touching the soil, but only within the corridor. We mark the best throw in three attempts.

The recorded data were developed on individual evaluation sheets, as follows:
1. Case 1 B. F., 16 years old

Test	Ti	Tf	Difference	Percentage difference
Long jump	1,98	2,16	13cm	9,09%
Throwing the medicinal ball	7.80	8.70	90cm	11,53%
Kicking from drop	20	25	5m	25%
Throwing the ball	12	18	6m	50%

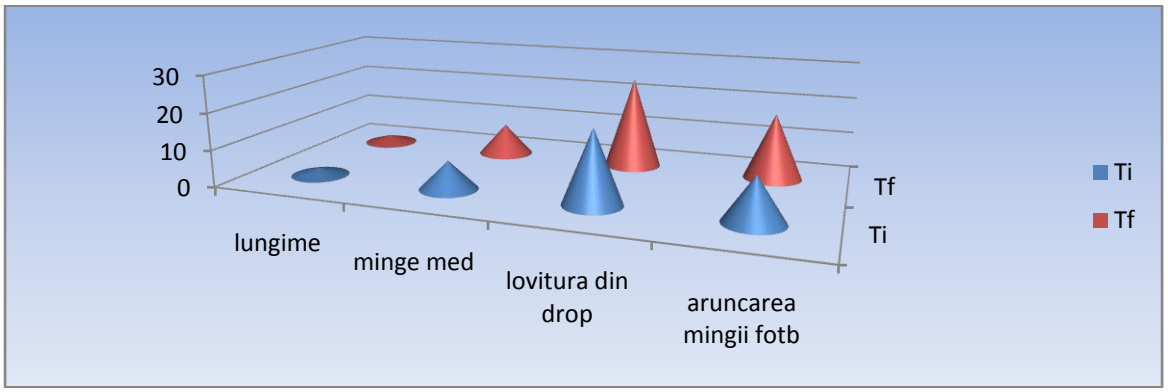
Subject B.F. records the value 1.98m in the Standing Long Jump, initial testing, and 2,16m in the final one, with 13 cm more, which means a progress of 9.09%.
The progress on leg strength is 25% when tested with foot drop kick, the subject succeeding in sending the ball to a distance of 25m in both tests.
The arms are progressing both with the medicinal throwing (11.53%) and at throwing the football (50%), the development programs implemented contributing to the upper limbs force development.



2.Case 2- A.G.

Long jump	Ti	Tf	Diferența	Diferența procentuală
Throwing the medicinal ball	2.02	2,37	35cm	17%
Kicking from drop	8.10	9,20	110cm	13,58%
Throwing the ball	25	31	6m	24%
Long jump	10	17	7m	70%

Subject A.G. records the value of 2.02m in the Standing Long Jump, initial testing, and 2,37m in the final one, with 35 cm more, which means a progress of 17%.
The progress on leg strength is 24% when tested with foot drop kick, the subject succeeding in sending the ball to a distance of 31m in both tests.
The arms are progressing both in the medicinal throwing (13.58%) and in throwing the football (70%), the development programs implemented contributing to the upper limb force, for the 2nd subject, too .
It follows that programs based on isometry contributed to our study goalkeepers training optimizing.



Discussions
Static force development, still important in sports, such as gymnastics (maintenance position) or in some sports games: rugby - pushing in the ordered or unordered scrum, volleyball and basketball - maintaining the fundamental is less important in football, dynamic game, in which the direct contact with the opponent is short and also dynamic (shoulder to shoulder thrust, thrust in jumping to the head, etc.). There is an exception on training goalkeepers, who must adopt the fundamental position, often during a game, given that from the position they can perform explosive efforts in the desired direction. This type of exercise will be used primarily in general physical preparation stage, accompanied by mandatory dynamic actions (short sprints, jumps etc.).
Programming the isometric exercises might be done only in the general physical preparation stage, as if for the other stages they don't justify their presence. We have identified, however, exercises based on isometric contractions in training programs based on another type of muscular contractions. Goalkeepers' strength training, who, most of the game period must stand in fundamental position, from which they must act quickly in different directions, should be essential. In their case, however, the exercise must be combined with other contractions isometric exercises, especially the explosive type.
For the development of trunk force and that of the upper limbs, it is not particularly necessary to follow the route muscle mass, maximum force, specific force, as this is not the purpose of training young footballers muscle. The programs for these areas may include muscle development exercises in a wide range, depending on the material conditions, the somatic characteristics of the players or the coach's own conception. The means used led to the development of muscular strength in the upper and lower limbs, the research hypothesis being confirmed.

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