

THE EFFICIENCY OF THE NON-SPECIFIC TENNIS MEANS OF PREPARATION AT JUNIOR PUBERTY AGE UNDER 13 – 14 YEARS LEVEL

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Abstract:

The research hypothesis starts from the premise that the use of some operational structures can be converted into well-structured training programs, by increasing the volume of the technical-tactical acquisitions applied at the training level of puberty players during training and matches. The purpose of the research is to continuously improve and guide the content of the training, by including the non-specific means in tennis playing. The topic of the research is represented by the methods and means of training as well as by the structure of the competitive calendar by restructuring the training with the introduction of the non-specific means in tennis playing. The practical value of the research is given by the possibility to elaborate training models that include some non-specific means in tennis playing.

Key-words: *puberty, tennis, non-specific means*

Introduction

The process of growth and development continues till the age of puberty. During this period some processes become more resistant, they increase in length in order to make possible some processes that require a certain level of motor qualities (Baciu, A., M, 2008). The osteo-articular apparatus is poorly developed, thus, its tensile strength being low (Demeter, 1984).

The biological parameters of secondary selection add to the psychic profile: intelligence, speed of reaction, spirit of anticipation, resistance to stress and tiredness, the ability to focus and maintain it (Drăgan, I. 1989).

The physical profile: height, large arm span, strong lower limbs, explosive force, large biacromial diameter. The metabolic support is aerobic (Ifrim., M. 1989).

The formation of ball hitting skills as well as the specific tactical rules require special efforts from both the coach and the athlete (Baciu, 2008).

Learning will begin at an early age (Catanescu, C., 2010). The optimal age for tennis debut is 8-9 years (Crăciun, M., 2009).

In echeloning the task of learning and in perfecting the technique and tactics, the requirements of the competitive game will be taken into account (Crăciun M, 2009).

It is a sport in which the qualities of speed with the variants prevail: the reaction, execution, and movement speed, endurance, general and specific coordination, balance, strength, synchronization of movements, focus, anticipation, intelligence that should help him (Bompa., T. , 2003) (Segrceanu, A., 1986)

The learning and improvement of tennis is approached in a certain succession: right lift, left lift, service. (Segarceanu., A., 1989)

The lack of skills or defective skills can be compensated by personality traits such as motor skills, motor attitudes (Colibaba, E.D. 1989).

It is considered that the use of some operational structures for each element and technical-tactical procedure specific to the age of 13-14 years will be converted into well-structured physical

training programs increasing the volume of technical-tactical acquisitions applied during training and matches (Segarceanu, A., 1989).

2. Material and method

The training program was designed for a team of girls aged 13-14 from the Olimpia club in Braşov between April 1st, 2018 and June 31st, 2019.

The program includes percentile masses on the Standard fitness test battery which evaluates the level of general fitness, by introducing new tests and by modifying the existing ones: 50m speed running, long jump from the spot, endurance running, throwing the oina ball at a distance, hanging on a fixed bar with folded arms, 10X5m back and forth running, lying on the back lifts.

We have opted for the tests that are recommended at this age: 10X5m back and forth running, long jump from the spot, lying on the back lifts, hip mobility in the foreground and endurance running.

In addition to the motor tests, the battery of tests also includes measurements of anthropometric indicators and identification data of those tested:

- 30m speed running,
- 50m speed running,
- endurance running,
- pushups,
- 10m running with your knees up and continuing to accelerate
- direction change running

The statistical-mathematical indicators obtained by measurement were: - the arithmetic average, the standard deviation and the amplitude.

The determination of the level of the capacities, factors and evaluation tools was carried out by measurement, throughout the research as follows:

- softness / mobility = stretching hands while sitting

(T 1.) the highest value is recorded at the subject 2 = 12 cm, while the minimum value is recorded at (T2) = 12cm.

the explosive force of the lower limbs = long jump from the spot, maximum values (T1 = 190cm) at the first test and (T.1) at the second test, the arithmetic average being higher when tested second time.

- the abdominal muscle strength and endurance = repeated lifting of the torso in lying position, the values

- The muscle strength and endurance at the level of the arms and shoulders = by keeping the arms bent at the fixed hanging bar, the differences between the two tests being 1-2 cm.

- moving speed / the speed = back and forth running speed 10x5m, (50m)

- cardio-respiratory resistance = 24x20m(480m) back and forth running has a modest measurement value for running time without running around the milestone every 20m.

NO	SN	SEX	AGE	ANTHROPOMETRIC DATA			ADIPOSE TISSUE
				H	W	GDB	
CRT							mm
1	BD	F	13	137	35	18.91	42
2	RA	F	13	136	37	20.10	40
3	CC	F	14	140	39	19.87	36
4	MB	F	14	142	42	20.89	38

Table 1. Tested subjects anthropometric

We note that height and weight have values consistent with the GDB = 18-24.9 values with minimal health risk.

Identification data	Surname Name	
	Age (years, months)	
	Sex (m/f)	
Anthropometric measures	waist (cm)	
	weight (kg)	
	Body fat, five skin folds: biceps, triceps, subscapular, malleolar suprailiac (mm).	
Evaluated dimension capacities / competencies	Factor	Test Evaluation tools
Cardio-respiratory resistance	Cardio-respiratory resistance	Resistance back and forth run (min/sec) 24X20m. Test on the exercise bike (min/sec)
Force	Explosive force	Long jump without momentum (cm),
Muscle endurance	Functional force	Bent arm suspension (sec),
	Torso strength	Lying lifts (no/30sec),
Speed	Coordination speed	Back and forth run 10 X 5m(sec),
Suppleness	Suppleness	Forward flexion of the torso, in a sitting position (cm),

Table 2. Identification data of the anthropometric measures and of the assessment tools

	Forward flexion of the torso, in a sitting position (cm)		Long jump without momentum (cm)		Back lying torso lifting (nr/30sec)		Bent arm hanging (min/sec)		Back and forth run 10X5m (min/sec)		Back and forth run 24X20m (min/sec)	
<i>B.D</i>	8	10	190	195	32	33	30sec	40	13.5	13.3	2.45	2.35
<i>R.A</i>	9	12	185	195	30	32	20sec	25	12.9	12.7	2.30	2.20
<i>C.C</i>	7	9	180	190	31	33	15sec	25	12.5	12.3	2.58	2.45
<i>MB</i>	5	8	180	1.75	35	36	38sec	50	12.4	12.2	2.40	2.35
	<i>R1</i>	<i>R2</i>	<i>R1</i>	<i>R2</i>	<i>R1</i>	<i>R2</i>	<i>R1</i>	<i>R2</i>	<i>R1</i>	<i>R2</i>	<i>R1</i>	<i>R2</i>
<i>X⁻</i>	7.25	9.75	183.75	188,7	32	33.5	25.75	35	12.87	12.6	2.42	2.33
<i>σ</i>	0.97	1.94	4.85	9.7	25.24	1.94	20.87	44.9	0.53	0.53	13.59	12.13
<i>W</i>	4	4	10	20	5	3	28	12.13	1.1	0.53	28	12.13

Table 3. Performed test results.

3. Research results

- as for the research results an increased level of values both at the level of the first test and the second test is noticed.
- forward flexion of the torso has higher values at the second test for all sportswomen, compared to the first test where the arithmetic mean is 7.25 cm significantly lower than the average result from the second test 9.75 cm (Table 3)

- as for the long jump without momentum, the values of the indicators for the first two sportswomen are 1.95m with an arithmetic average of 1.95m, while the lifting of the torso from back lying in 30sec have insignificant values.
- bent arm hanging has the highest value of 50 / sec and 40sec.
- the 10X5m back and forth run has the role of coordinating the body in alternating effort the endurance 24X20 back and forth run can also be done outdoors due to the lack of a properly arranged room.

4. Conclusions

The use in training and competitions of some means that are used in the form of non-specific structures, which converted into training programs, increase the volume of acquisitions at the level of 13-14 year old juniors.

The absence of a unitary conception with reference to the way to carry out the promotion a higher value level.

We opted for the tests that are recommended at this age and along with the motor tests they successfully cope with training and competitions.

5. Recommendations

The inventory of the operational structures used at the age of 13-14 years old, meant to improve the execution technique when training and in competitions.

The use of non-specific means as training means.

When training the motor experience of athletes should be taken into account.

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