INFLUENCE OF PHYSICAL TRAINING ON ANTHROPOMETRIC DATA REGISTERED BY BEGINNING TENNIS PLAYERS

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Abstract: The complexity of the sports training, as well as, the focus on the features of the sports discipline, on the individual features and on the age characteristics include knowledge, concern for the professional improvement and for the scientific research. The present paper tries to identify the impact of the physical training performed by the beginning tennis players on certain anthropometric information (waist, body mass, thorax perimeter while breathing in and out). Lately, the role of the physical training was significantly taken into account in many sports disciplines, particularly in the sports game area including the table tennis. Considering the registered results, we may conclude that the physical training influences certain anthropometric aspects, except for the waist.
Keywords: *table tennis, growing, training.*

Introduction

The somatic data referring to the individual's height waist and body weight, as well as to the dimensions of certain segments and limbs of the body, have particular meaning for the high performance sports activity. Normally, the growth and the development of the human body take place continuously till the body reaches maturity. The intensity of the growth phenomena is higher in the beginning, decreasing gradually till the end of the evolution period. In terms of intensity and duration, the rhythm of the growth and the development processes and phenomena is variable, less active stages alternate with pickup periods. According to certain theoreticians, the puberty is not a crucial period and the child should not be treated gently, on the contrary, the puberty represents the beginning of a development stage on all levels. [1] While the growth process represents the expression of quantitative phenomena related to the dimension of bodily components, the development gathers the qualitative processes which point out the achievement of superior function levels; here we should also mention that between the chronological and the biological age there are significant differences, the biological age being the only aspect meant to delimit the efficient individualization of the sports training.[2]

The sports training may influence certain anthropometric parameters, particularly through the physical training component. The sports training is a process relying on the education science and on practical education aspects which are involved in the education individual's conduct [3], *it has an interdisciplinary character* [4] it *aims at the development of the sports performance potential* [5] at the active, planned, systematic and performance-oriented changes.[3]

Therefore, the purpose of the research is to identify the impact of the physical training specific to the table tennis on certain anthropometric parameters of beginning players who perform this sports discipline.

Methods

The research was performed during a 6 month period. % sportsmen were submitted to the application of different work programs.

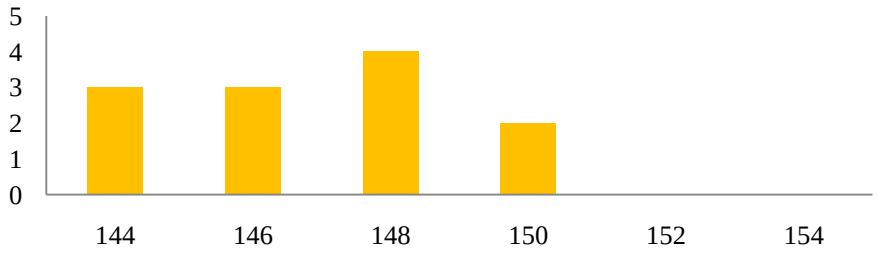
We have also used anthropometric measurements, namely the waist, the weight, the thorax circumference while executing forced breathing out and the thorax circumference while breathing in deep. Considering the research, the waist has no relevance because it is well known that it has a genetic determination which can not be changed through physical exercise. The weight has also a genetic determination but it may be influenced through other means, including the sport. These two measurements register a certain contribution in determining the weight index – the values of the waist offer information over the harmony of the body development and the body tendencies.

The difference between the two measurements of the thorax circumference, materialized in the elasticity of the thorax, offer information over the effort capacity.

Results

The waist value of the experiment group:

Chart 1. Distribution of the subjects from the experiment group on levels of height – initial testing



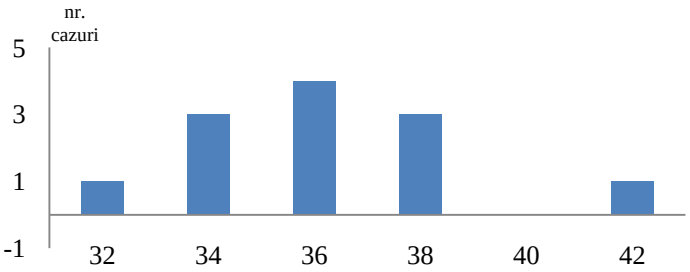


Chart 2. Distribution of the subjects from the control group on levels of height – initial testing

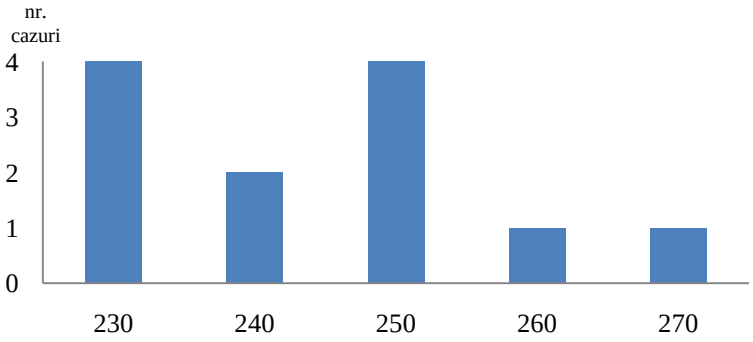


Chart 3. Distribution of the subjects from the experiment group on weight/waist index values

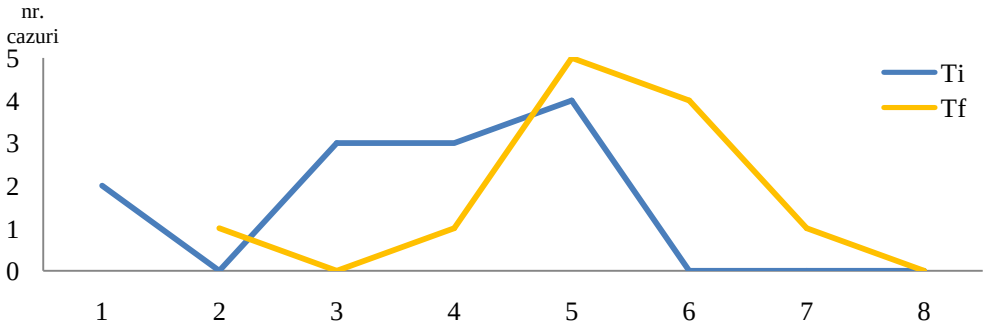


Chart 4. Diagram of the distribution of elasticity values at the level of the thorax, the experiment group, both measurements

Discussion

The two groups register similar waist values, the arithmetic means of both the experiment and the control group being similar, namely 147.6cm and 147.3cm, the experiment group being superior with 0.3cm. During the final testing, the difference is also 0.3cm but, this time, in favor of the control group. The amplitude of data related to the waist is about 7cm, and we mention here the exceptional waist value of the subject B.A. from the experiment group who exceeds his colleagues with 3cm in height.

The subjects' waist value distribution is relatively homogenous, it varies between 144cm and 151cm with a curve deviation tendency towards the left side, in the 146-150cm interval.

Considering the waist criteria, there are no significant differences between the two groups which may influence the results of the research.

Considering the weight values, the arithmetic mean of the weight values registered by the subjects submitted to the research appears as it follows:

a. the arithmetic mean of the weight values registered by the subjects during the initial testing 36.7kg, is close to that registered during the final testing – 36.4kg.

b. the waist value presents a slight increase between the two testing while the weight value registers a decreasing tendency.

c. the amplitude of the data sequence is similar for the two groups during the initial testing, namely 9kg and very close during the final testing – 8kg as compared to 8.5kg, the decreasing tendency being registered by the experiment group.

d. according to the charts 10.3 and 10.4, the distribution of the weight value is normal, with a central curve describing the evolution of the experiment group, and with a slightly left-oriented curve tendency for the control group.

The coefficient weight/waist offers the balance between the two measurements during the bodily development. For the experiment group, we may observe an individual average of 248.6 gram/ centimeter during the initial testing and 246.1 during the final testing, a slight decrease. The data amplitude is significant, 49.1 gram/centimeter during the initial testing and 43.4 during the final testing, a slight decrease. For the control group, the arithmetic mean value is 246.8 gram/centimeter during the initial testing and 248.8 during the final testing, a slight increase. The amplitude of the values is 49.0 gram/centimeter, respectively 55.4. Concerning the distribution of values per categories – the charts 10.5 and 10.6, the allocation is relatively normal with slight deviation tendency towards the left side. The left-oriented deviation tendency may be considered positive, the values of the index being considered as optimum for this age, namely 220 – 250 gram/centimeter.

The measurements of the thorax circumference while deep breathing in vary between 67 and 74cm for the experiment group, with an average value of 70.8cm – the initial testing and between 68 and 75cm during the final testing. The value amplitude for the control group is 7 cm, the values varying between 67 and 73cm, the arithmetic mean being of 70.3cm.

Comparing the data registered by the two groups, we may conclude that there are no significant differences between them, the arithmetic mean of results being 70.8/71.9cm as compared to 69.7/70.3cm, while for the value amplitude, we register 7/7cm as compared to 6/6cm.

The thorax circumference measurement while performing a forced breathing out, during the two testing, indicates average values varying between 67.25cm and 66.75cm for the experiment group and 67.2cm and 66.8cm for the control group, these values being almost similar. There is a difference while considering the result amplitude which indicates an increased dispersion for the experiment group, the results vary between 9 and 8cm as compared to 5 and 4cm.

The thorax elasticity as an anthropometric index is the result of the difference between the two anthropometric measurements described above and reveals superior values, both the average value and the amplitude, for the experiment group as compared to the control group. The experiment group registers a superior average of 1.1cm during the initial testing and 1.7cm during the final testing, as compared to the control group. The amplitude indicates a difference of 2cm between the two testing in favor of the experiment group.

Conclusions

Considering the distribution of the thorax elasticity values registered during the two testing, the value distribution curve is relatively normal. There is a slight right-oriented tendency towards valuable results. This tendency is stronger during the final testing which may be considered as a consequence of the training ability for functional development of motor skills.

References

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