EVALUATION INDICATORS BY WEIGHT-GROWTH OF MEN AND WOMEN AT THE AGE OF 21, STUDYING AT THE FACULTY OF PHYSICAL EDUCATION, UNIVERSITY OF RZESZOW

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- body weight

Abstract:
The aim of work was to assess the type of construction of the somatic cell among men and women studying Physical Education based on the Rohrer indicator, as well as the analysis of the incidence of deficiency, excess weight and normal body weight based on the indicator weight-BMI growth. The results obtained showed the targeted changes analyzed indicators weight-growth of the test students group.

INTRODUCTION

Physical development is determined mainly on the basis of height, weight and weight indicators-growth. Body height, however, is much more determined genetically than the mass, by giving a better picture of the direction of the trend. In turn, the body weight as opposed to height gives a faster information about ongoing changes, however, they are less certain because the impact on does not have any change in lifestyle, nutrition, diseases, even the impact of fashion on a community.

Research and analysis is subject to a variety of measurements, but the most basic are testing the height and body weight. These studies are conducted in different provinces and regions of different eco-environments, in addition, research is carried out, as far as possible, the different social environments and places of residence of different levels of urbanization. [Przewęda 2009, Podstwski 2012].

Analysis of indicators that determine the construction of somatic is carried out among children, youth and adults. Special population are groups studying specific directions, which include Physical Education, as those are groups that need to have very high level of motor efficiency. It should be noted that the majority of students are training different disciplines which is associated with additional workouts that have significant influence in shaping their somatic cell construction [Boraczyński 2007, Eksterowicz i wsp. 2013]. Subject of variation and differentiation of somatic cell construction of man is considered an important reflected are numerous and constantly updated headlines in many scientific publications [Cieśla 2002, Tatarczuk 2003, Czarny 2007,Podstawski 2012, Asienkiewicz 2010,2013, Puszczałowska-Lizis 2014, Wasiluk i wsp. 2014].

MATERIAL AND METHODS

The research was conducted in 2014. There was assessment of selected anthropometric parameters among 78 students of both sexes at the age of 21 years at the Faculty of Physical Education, University of Rzeszow. Anthropometric measurements of selected somatic features were made in accordance with generally accepted measurement technique that is described in [Malinowski, Bożiłow 1997]. Based on height and body weight there were calculated values of indicators Rohrer and BMI. Using the indicator Rohrer, classification was

made by Kowalewska. Obtained results were subjected to statistic elaboration. Characterizing variables uses the descriptive statistics: sample size (n), the arithmetic mean (x‾), standard deviation (SD).

Indicators has been calculated on the basis of designs:

$$BMI = \frac{body\ mass\ [kg]}{(body\ heigh\ [m])^2}\ ,\ Rohrer\ Indicator = \frac{body\ mass\ [\ g]}{(body\ heigh\ [cm])^3}\ x\ 100.$$

RESEARCH RESULTS

Table 1. Numerical characteristics of the construction types based on Rohrer index of the somatic cell and key Kowalewska, among female and male students of Faculty of Physical Education, University of Rzeszow

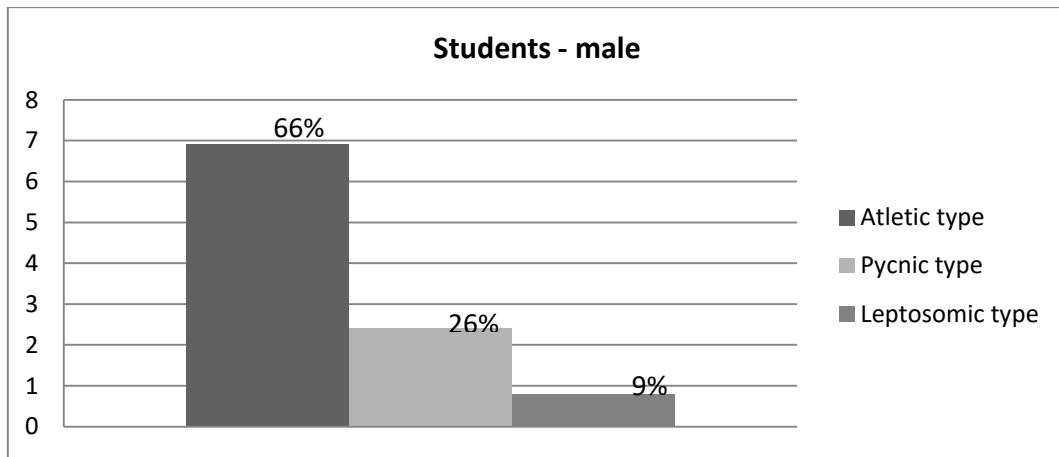| Sex	N	$\bar{x}$	SD	Athletic type		Leptosomic type		Pycnic type	
				N	%	N	%	N	%
♀	40	1,24	0,1	14	36	20	58	6	6
♂	38	1,29	0,11	26	66	3	9	9	26

Źródło: badania własne

Chart 1. Graph numerical characteristics of the construction types based on Rohrer index of the somatic cell and key Kowalewska, among male students of Faculty of Physical Education, University of Rzeszow
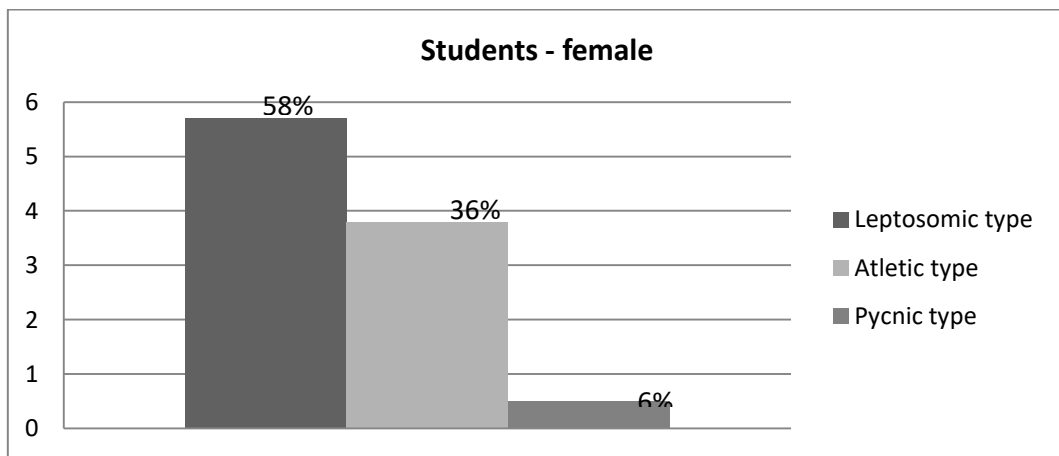

Chart 2. Graph numerical characteristics of the construction types based on Rohrer index of the somatic cell and key Kowalewska, among female students of Faculty of Physical Education, University of Rzeszow

Table 2. Numerical characteristics of the construction types on the basis of the slenderness ratio of the somatic cell, female and male students of the Faculty of Physical Education, University of Rzeszow

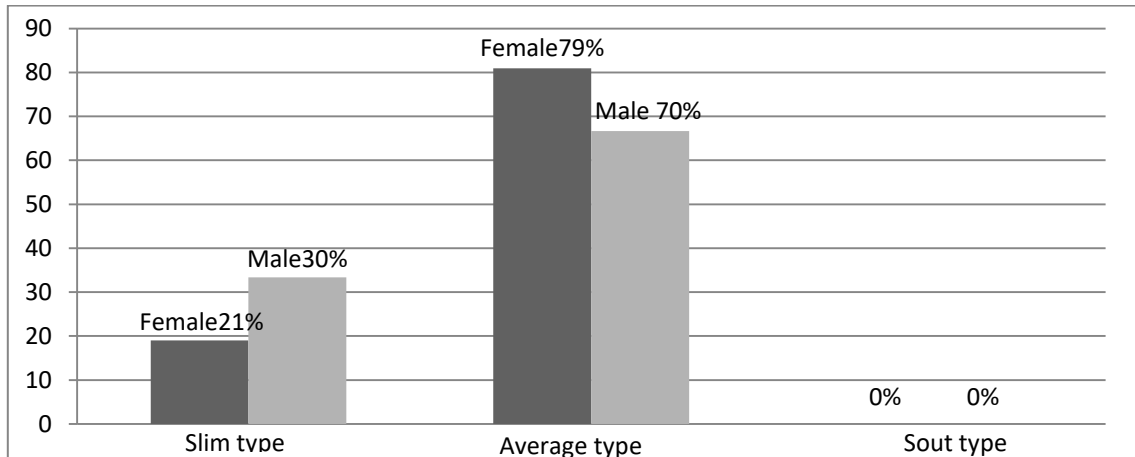| Sex	N	$\bar{x}$	SD	Slim type		Average type		Stout type	
				n	%	n	%	n	%
♀	40	43,3	1,09	9	21	31	79	0	0
♂	38	42,73	1,17	13	30	25	70	0	0

Source: Own elaboration

Chart 2. Graph numerical characteristics of the construction types on the basis of the slenderness ratio of the somatic cell, female and male students of the Faculty of Physical Education, University of Rzeszow

Table 3. Characteristics of numerical index BMI, female and male students of the Faculty of Physical Education, University of Rzeszow

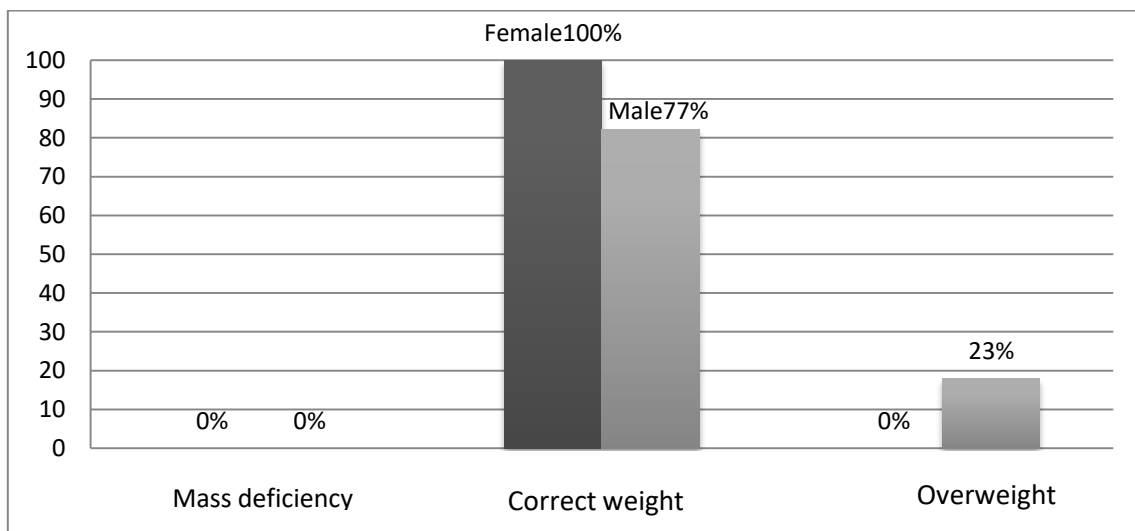| Sex	N	$\bar{x}$	SD	Mass deficiency		Correct weight		Overweight	
				N	%	N	%	N	%
♀	40	20,54	1,27	0	0	40	100	0	0
♂	38	23,04	1,71	0	0	31	77	7	23

Source: Own elaboration

Chart 3. Graph characteristics of numerical index BMI, female and male students of the Faculty of Physical Education, University of Rzeszow

CONCLUSIONS

On the basis of tests carried out among women and men at the age of 21 years, studying Physical Education at the Faculty of Physical Education, University of Rzeszow, stated that, the theoretical reports on the impact of increased physical activity on the human body are confirmed in test results indicators weight-growth.

With regard to the Rohrer indicator in the classification by Kowalewska, there are three types of grouped study in the population of men and women: athletic, picnic and leptosomic. The dominant body type among the 58% of female students was leptosomic type, while in the group of male students type of athletic was reported in 66% of those total group. The least common type in women was picnic type - 6% among men leptosomic - 9%.

The empirical material used in relation to the distribution of the types of construction of somatic cell according to the indicator of slenderness confirmed that the leading type of construction in the groups was the type of medium, which was found in 79% of the female students and 70% of the male students. The remaining part of the population that is 21% women and 30% of men are classified to the type of slim.

Overweight and obesity in the last decade has become widespread in the world as well as in Poland. The trend of the occurrence of excessive body weight has become a regular and affects a growing number of children, young people and adults [Drygas, 2005, Wądowska, 2010].

Based on the indicator growth and weight - BMI it was found valid weight in 100% female students. As result, the analysis of valid body weight has also been noted among men 77%, in the rest of the group representing 18% overweight was noted.

The results obtained showed the targeted changes analyzed indicators weight-growth test group of men and women studying Physical Education at the Faculty of Physical Education, University of Rzeszow. Large determinant from the correct direction and the physical development of the population has their lifestyle as well as the specifics of the study and the fact that most of the female and male students actively practice sport, which involves extra physical effort.

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