180 - CHARACTERISTICS OF BODY COMPOSITION BEGINNERS OF PERSONS TO PROGRAM OF PHYSICAL EXERCISES IN ACADEMIA

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INTRODUCTION

Much of the health risks associated with obesity are not only related with the total amount of body fat, but also the manner in which the fat is distributed, especially in the abdominal region (intra-abdominal fat or visceral) (KEYWARD and Stolarczyk, 2000).

Moreover, little body fat, it also represents a risk to health, as the body needs a certain amount of fat for the maintenance of physiological functions (KEYWARD and Stolarczyk, 2000).

The body composition is used to quantitatively determine in the degree of development, growth of children and young people and the state of body components of adult and elderly (COSTA, 2001). It is characterized by the expression of genetic factors with external influences such as physical exercise, disease and / or food. His determination is extremely important for the nutritional diagnosis, subsidizing specific guidelines regarding nutrition, and physical training (SILVA et al, 2006).

The body composition is considered by many authors as a component of physical fitness related to health, because of the relationship between the quantity and distribution of body fat with changes in the level of physical fitness and health status of people (COAST, 2001).

Thus, the profile of the body composition of participants in programs of physical exercise in gyms is extremely important so as to apply appropriate exercises and diets to reduce the amount of fat and / or increase the amount of muscle mass, thus contributing to improve quality of life of the population studied.

Health and quality of life today are points of debate in several areas and also in clinical research. And in that context, the issue obesity has been identified as one of the great evils of the century. Thus, studies by applying methods to assess the amount of body fat in relation to body mass become necessary, since the scientific point of view "the study of body mass alone does not constitute a proper parameter for the identification of excess or shortage of the different body components (fat mass, muscle mass, bone mass and residual) "(COSTA. 2001), about this prospect is expected to contribute relevant information on the body profile of the population in Foz do Iguacu.

A good level of physical fitness provides welfare for individuals and prevent diseases related to lifestyle sedentary. Thus it is expected to be contributing to help with information and / or maintain the health status of the population.

In this study the methods to be used in research: the indirect methods, namely those who seek from chemical and physical principles to extrapolate the amounts of fat and lean body mass and two indirect methods, namely: skinfolds and calculations and protocol of Jackson Pollock (1978).

From personal point of view the study becomes relevant as it opens avenues for the theoretical and technical development on nutritional status of individuals, thus contributing to raising the level of knowledge and improve the diagnostic accuracy of nutritional fairly present in day-to day-to nutritionist.

BODY COMPOSITION

The body composition is the ratio between the different body components and total body mass and is usually expressed by the percentage of fat and lean body mass and that leads to body weight (COSTA, 2001).

The determination of body composition of a person and critically important factor for assessing the condition of health to physical fitness. (ASSIS, BUREAU AND NUNES, 1999).

The differences in skeletal size and proportion of body mass may contribute to changes in body weight among individuals of similar height (MAHAN and ESCOTT-Stumper, 2002).

Therefore, the understanding of theoretical models of cracking of the human body is extremely important in assessing body composition. Coast (2001) introduced the model of Wang (1992) where the division of body mass has five different levels.

Highlights Costa (2001) that the levels of organization body provided by Wang (1992) provide a conceptual framework within which the various studies on body composition can be made. The understanding of the interrelationship of the different levels of complexity to avoid misinterpretation of data at certain levels.

The body composition as well as assess the amount of total and regional body fat can be used to: identify the health risks associated with excessively high or low levels of total body fat, identifying the health risks associated with excessive accumulation of intra-abdominal fat; provide understanding about the risks to health associated with the lack or the excess of body fat; monitor changes in body composition associated with certain diseases, evaluate the effectiveness of interventions nutrition and physical exercise on change in body composition; estimating ideal body weight for athletes and non-athletes, make recommendations and dietary requirements of physical exercise; monitor changes in body composition associated with growth, development, maturity and age (KEYWARD and Stolarczyk, 2000)

Obesity is defined by Heyward and Stolarczyk, (2000) as an excessive amount of body fat total for a given body weight. This is a serious health problem that reduces life expectancy, because it increases the individual risk of developing coronary artery disease, hypertension, type II diabetes, obstructive pulmonary disease, ósteo-arthritis and certain types of cancer (COAST, 2001). Today is considered a major health threats around the world, time has shown that trend with epidemic prevalence increased in all age groups. (PEREIRA, 2005).

The amount of body fat is determined assessing itself to fat mass (MG) and fat-free mass (GLM) of the individual. The MG includes all lipids that can be extracted from fat and other tissues. The MLG is in all tissues and residual substances, including water, muscles, bones, connective tissues and internal organs.

A relative body fat (% BF) can be obtained by dividing the total by MG body weight (PC):% BF = (MG / PC) x 100. The pattern of obesity that puts the individual at risk of disease is above 25%. Mean% CG is 15% to 23% for men and women (Heyward and Stolarczyk, 2000).

Extracting is the body fat of the total weight of the individual, you get the lean body mass, which in turn consists of protein and, intra-and extracellular water and bone mineral content. (CUPPARI, 2002).

EVALUATION OF BODY COMPOSITION

The main objective of the evaluation of body composition is to determine the quantity of lean body mass and fat mass of the body (Heyward and Stolarczyk, 2000).

Currently it has advocated the need to use more efficient methods for assessing the body composition, since studies have shown that the body mass receives differentiated contribution of each of its components, rendering ineffective an assessment based only on the value of mass total body, namely that obtained in the balance and Coporal mass index - BMI (COSTA, 2001).

According to (Cuppari, 2002) there are several methods of reference for the affection of the body compartments such as hidrodensitometria, computed tomography, magnetic resonance, the densitometry by dual photon, the total potassium, the analysis of activation and de neutrals Isotope dilution.

However emphasizes Coast (2001) as a result of low operational cost and relative simplicity of use, the methods apply anthropometrical for large samples and can provide national estimates and data for analysis of secular changes.

According McArdle, Katch & Katch (1981), the rationale for the extent of skinfolds based on the fact that approximately half of the total body fat content is located in the existing fatty deposits directly under the skin and this is directly related to total fat.

Because of the low operational cost and relative simplicity of use, the methods apply anthropometrical for large samples and can provide national estimates and data for the analysis of secular changes. Moreover, the estimation of body composition through anthropometric measurements using relatively simple measures such as weight, height, girth, diameter and thickness of bone skinfolds. When your only goal is to estimate the percentage of body fat, the measures used are more skinfolds of the second and that Lohman (1981) is one of the most practical means for assessing the body composition of populations of adults between 20 and 50 years is the use of skinfolds, because 50 to 70% of body fat is located subcutaneously, and some skinfolds have shown relation to total body fat (COSTA, 2001).

The skin folds that appear more frequently in the literature and that meet the needs of the vast majority of predictive equations of body fat are: triceps (TR), subscapular (5B), biceps (BI), ~ xilar average (MA), or chest pectoral (TX), supra-iliac (SI), supra-spinal (55), thigh (CX) and medial calf (PM) (COSTA, 2001).

METHODOLOGY

This study a group of 160 volunteers aged 20 to 40 years and 80 males and 80 females persons, beginners of a program of physical exercises of the academy FIRST Health & Performance of the city of Foz do Iguacu, State of Parana. This sample represented 15.5% of the population analyzed.

For the collection of data was used anthropometric doubly indirect method of skinfolds and calculations and protocol of Jackson Pollock (1978).

In the measurement of skin folds used a skinfold Brand Lange Skinfold Caliper, with accuracy of 1.0 mm (to measure) and pencil dermographic (to demarcate the site to be clamped). For measurement of diameters bone was utlilizado a caliper Brand fujk, with accuracy of 1.0 mm. For the measurement of weight coporal was used a balance of anthropometric

Filizola accurate to 100gr. However for measurement of height was used stadiometer the same balance, with precision of 1.0 mm.

After reading and detailed understanding of End of Free and Informed Consent was evaluated body composition and fat percentage.

For the evaluation of body composition is it and take into account weight, height and nine skinfolds (triciptal, subscapular, biciptal, suprailliac, chest, above-spinal, abdominal, thigh, calf)

For the measurement of the measures will be made to weighing possible with the least amount of clothes and no ornamentation, and bare feet together, upright position, facing the evaluator.

Height was measured with the appraised of back stadiometer fixed for the balance.

The skinfolds were carried out in adipometer assessed in the hemibody right posture relaxed and orthostatic using the thumb and index finger of the left hand of the evaluator, positioning itself to the bar a centimeter below the point of repair pliers, waiting for two the second for the correct reading of skinfold, reapplied to the operation of three times in the same doubles to record the results in the fact sheet assessed.

As processing of data was used descriptive statistical method emphasizing their minimum values, average, maximum and standard deviation of the data collected through the sample and to highlight the findings will be used tables and graphic-type radar. For comparison between genders were used inferential statistics specifically the correlation of Speraman. The margin of error used in the research will be 0.05 compatible for this type of study.

RESULTS

According to data collected encontrads the figures were as follows:

Table 01. Body characteristics of the composition of males aged 20 to 40 years.

	% body fat	*Lean mass*
Minimum	6,00	51,23
Average	23,00	76,60
Maximum	48,78	91,30
Standard deviation	7,60	7,96

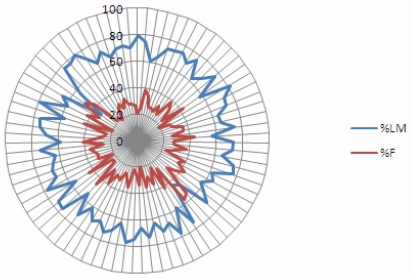
The average values were found for the percentage of body fat (% F) 23.00% + / - 7.60 and the percentage of lean body mass (% LM) 76.60% + / - 7.96.

Table 02. Characteristics of the body composition of female subjects aged between 20 and 40 years.

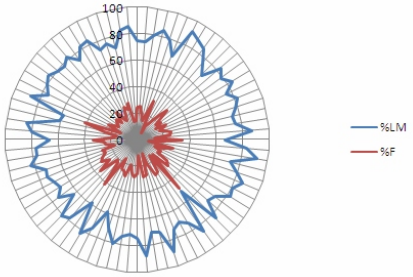
	% body fat	*Lean mass*
Minimum	18,72	33,74
Average	31,60	68,18
Maximum	56,95	81,28
Standard deviation	8,22	8,75

The average values were found for the percentage of body fat (% F) 31.60% + / - 8.22 and the percentage of lean body mass (% LM) 68.18% + / - 8.75.

Graph 01. Distribution of the sample according to the characteristics of body composition in male subjects aged between 20 and 40 years.



Graph 02. Distribution of the sample according to the characteristics of body composition for individuals females aged 20 to 40 years.



CONCLUSION

Through this study we found that generally the percentage of fat and lean body mass are outside the desired levels for both men, as women. Highlighting the need for physical exercise, not only with the objective of reducing the percentage of body fat, but also for increasing lean body mass, thus improving their body composition in a whole.

The study involved only a small step of the broad universe of features assumed by human being through genetic factors or acquired and influenced by the media. But it is mention the importance of identifying these characteristics, for the optimization of resources, means, methods and systems for the training will be used to obtain results with greater efficiency and safety.

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CHARACTERISTICS OF BODY COMPOSITION BEGINNERS OF PERSONS TO PROGRAM OF PHYSICAL EXERCISES IN ACADEMIA

ABSTRACT

This study aimed to determine the characteristics of the body composition of individuals start a program of physical exercise in academia. This study a group of 160 volunteers aged 20 to 40 years and 80 males and 80 females indivíoduos, beginners of a program of physical exercises of the academy FIRST Health & Performance of the city of Foz do Iguacu, State of Parana. This sample represented 15.5% of the population analyzed.

The values found through the collection of data to the average of% of% of body fat and lean mass of males was 23.00 + / - 7.60 and 76.60 + / - 7.96, respectively. But the values found through the collection of data to the average of% of% of body fat and lean mass of female subjects were 31.60 + / - 8.25 and 68.18 + / - 8.75, respectively.

Keywords: characteristics, body composition, beginners.

CARACTÉRISTIQUES DE LA COMPOSITION CORPORELLE DES PERSONNES LES DÉBUTANTS À UN LOGICIEL DÉXERCICES PHYSIQUES DANS LES MILIEUX GYM.

ABSTRACT

Cette étude visait à déterminer les caractéristiques de la composition corporelle des individus lancer un program de l'exercice physique dans les milieux universitaires. Cette étude d'un groupe de 160 volontaires âgés de 20 à 40 ans et 80 hommes et 80 femmes indivíoduos, les débutants d'une émission d'exercices physiques de l'académie PREMIER Santé & Performance de la ville de Foz do Iguacu, État de Parana. Cet échantillon représentait 15,5% de la population analysée.

Les valeurs par le biais de la collecte de données à la moyenne du% du% de la masse grasse corporelle et la masse maigre des hommes est 23,00 + / - 7,60 et 76,60 + / - 7.96, respectivement. Mais les valeurs par le biais de la collecte de données à la moyenne du% du% de la masse grasse corporelle et la masse maigre des sujets femelles ont été 31,60 + / - 8.25 et 68,18 + / - 8,75, respectivement .

Mots-clés: caractéristiques, composition corporelle, les débutants.

CARACTERÍSITCAS DE LA COMPOSICIÓN DE LAS PERSONAS PRINCIPIANTES A UM PROGRAMA DE EJERCÍCIOS FISICOS EM EL GIMNASIO FISICA.

RESUMEN

El objetivo del estudio fue determinar las características de la composición corporal de las personas iniciar un programa de ejercicio físico en el gimnasio fisica. Este estudio de un grupo de 160 voluntarios de 20 años de edad a 40 años y 80 varones y 80 mujeres indivíoduos, los principiantes de un programa de ejercicios físicos de la academia PRIMERA Salud y Desempeño de la ciudad de Foz do Iguacu, Estado de Paraná. Esta muestra representó el 15,5% de la población analizada.

Los valores encontrados a través de la recopilación de datos a la media de% de% de grasa corporal magra y masa de los hombres fue de 23,00 + / - 7,60 y 76,60 + / - 7,96, respectivamente. Sin embargo, los valores encontrados a través de la recopilación de datos a la media de% de% de grasa corporal y masa magra de las mujeres que los sujetos fueron 31,60 + / - 8,25 y 68,18 + / - 8,75, respectivamente .

Palabras clave: características, composición corporal, los principiantes.

CARACTERÍSITCAS DA COMPOSIÇÃO CORPORAL DE INDIVÍDUOS INICIANTES A UM PROGRAMA DE EXERCÍCIOS FÍSICOS EM ACADEMIA DE GINÁSTICA.

RESUMO

Este estudo teve por objetivo verificar as características da composição corporal de indivíduos iniciantes de um programa de exercícios físicos em academia. Fizeram parte deste estudo um grupo de 160 voluntários com idade de 20 a 40 anos sendo 80 indivíduos do sexo masculino e 80 indivíoduos do sexo feminino, iniciantes de um programa de exercícios físicos da academia FIRST Health & Performance da cidade de Foz do Iguaçu, Estado do Paraná. Esta amostra representou 15,5% da população analizada.

Os valores encontrados através da coleta de dados para a média do % de gordura corporal e % de massa magra de indivíduos do sexo masculino foram de 23,00 +/- 7,60 e 76,60 +/- 7,96, respectivamente. Já os valores encontrados através da coleta de dados para a média do % de gordura corporal e % de massa magra de indivíduos do sexo feminino foram de 31,60 +/- 8,25 e 68,18 +/- 8,75, respectivamente.

Palavras-chave: características, composição corporal, iniciantes.