17 - MORFOFUNCTIONAL CARACTERISTICS OF PEOPLE WHO EXERCISE IN GYMS IN GUARAPUAVA-PR

GILCILEI SCORSIM;
LUIZ CARLOS CAVALHEIRO.
FACULDADE GUAIRACÁ, GUARAPUAVA, PARANÁ, BRASIL
nekasom@hotmail.com

Introduction

In the'60s, the gym was basically restricted to bodybuilding. Developed muscles, such as Arnold Schwarzenegger's, were the standard of the academies by those times. Gyms were divided into two distinct groups: those which invested in equipment for weightlifting, and those specialized in the gym classes. From the 80s on, with the industrial development of the concept of fitness and wellness, activities began to share spaces harmoniously. The coexistence continues, but prompted by the discovery of the benefits to health and fitness. Gyms nowadays also attracts women and elderly people, a class of customers which does not cease to grow (INTERNATIONAL HEALTH RACQUET AND SPORTSCLUB ASSOCIATION - IHRSA, 2005).

In the'80s, with the idea of physical activity, weight lifting started having its image improved among society and opened space for anyone who could train. At that point, women began to discover the most effective results of this exercise and, little by little, was finding its place in the gyms. Today the major reasons for which people start training in a gym are: aesthetics and quality of life. (IHRSA, 2005).

The practice of regular exercise and adequate nutrition are considered, by experts in this area, as the main habits to be adopted for a healthy lifestyle, by causing necessary changes to improve the quality of life (ACMS, 2002).

Even today in our society the number of inactivity is large, and the proportion of the population that does belong to this group is divided into two groups: those practicing sports and those who go to the gym. This second group is growing in search of health, quality of life, rehabilitation and aesthetics (GUISELLINI, 2004).

In relation to health, being healthy means a condition of welfare that includes not only the proper functioning of the body, but also having a sense of spiritual and social well-being, maintaining a good relationship with other people and the environment (GUISELLINI, 2004).

So the purpose of this study is to seek the morphofunctional profile of people who exercise in gyms in Guarapuava-Pr.

Methodology

This study is defined as descriptive and cross-sectional (THOMAS, NELSON, 2002). To select the sample the technique of stratified sampling is used. For this, total number of gym customers was found out, by using the four largest gyms in the city. Based on information obtained from leaders of the academies, a total of 1650 customers could be set up. The four academies have been designated A, B, C and D. The total number of customers in A and B was 500 each, C presented 450 customers, and D, 200. The sample comprised 100 subjects, while in gyms A and B were collected 30 in each of them, in gym C, 28 and in D, 12 subjects.

We used a scale to measure the body mass, brand Welmy ®, skinfold caliper Cescorf ® and Bank of Wells ®. To assess the heigth stadiometer located in the balance was used. From the measures of height and body mass, the Body Mass Index (BMI) was calculated by the equation: BMI = weight / height ². For evaluation of body fat the Petroski(2003) protocol was used, which recommends four skinfolds: triceps, subscapular, suprailiac and calf. The percentage of relative fat (% G) was calculated by the general equation for men and women from 18 to 66 years proposed by the same author [DC = 1.10726863 - 0.00081201 (SB ² TR + + + PT SI ¹ ²) + 0.00000212 (SB ² TR + + + PT SI ¹ ²) ² - 0.00041761 (ID)] and the equation proposed by Siri. To evaluate the muscle power we used to test of pushups and the test of abdominal crunches.

It was initially measured the total body mass. The subject's weight in kilograms grams (KG) was recorded. The measurement of the four skinfolds was performed on the right of individuals and were repeated three times, the final value measured with a measure of the two figures closer, provided that there were no difference of more than 5%, between them (QUEIROGA, 2005). After that, the results of the neuromotor, sit-and-reach, pushups and abdominal crunches in one minute tests were collected.

The data were presented in the form of mean and standard deviation. We used the "t" test to compare independent variables of physical fitness between the genders, after a review of the conditions of normality and homogeneity of variance of data.

Results

Table 1 presents the mean and standard deviation of age, height and body weight. The mean age was similar for men and women. In neight, men were significantly taller than women (p = 0.0000). Regarding body weight, men were significantly heavier than women (p = 0.0000).

Table 1 Age, height and weight average values

	Age (years)		Heiht (m) *		Weight (kg) *	
	M	F	M	F	M	F
Mean	24.1	25.1	1.74	1.60	76.5	61.4
Standard Deviation	3.0	4.3	5.6	6.5	11.7	10.6

* Significative statistical difference p<0,05.

Table 2 presents the mean and standard deviation of BMI, body fat and lean mass. The average BMI was similar between men and women (p = 0.07). The percentage of body fat was significantly higher among women (p = 0.0000), compared to men. As for lean mass, men had significantly greater results than women (p = 0.0000).

Table 2 BMI, body fat and lean mass average values

	BMI (kg/mÿ)		Body fat (%) *		Lean mass (%) *	
	M	F	M	F	M	F
Mean	25.8	23.7	18.6	28.9	81.4	71.9
Standard Deviation	3.9	3.6	6.7	5.3	6.7	5.3

* Significative statistical difference p<0,05.

Table 3 shows the mean and standard deviation obtained in the test of flexibility, crunch and pushups. There was no significant difference in test of flexibility for men and women. In the tests of pushups and abdominal crunches, men showed significantly greater results than women (p = 0.0000).

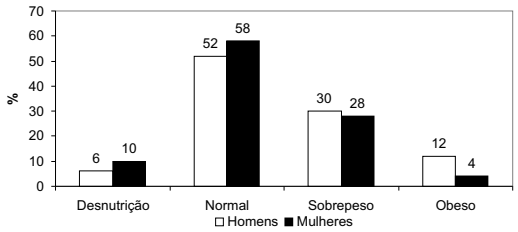
Table 3 Flexibility, abdominal test and pushup test average values

	Flex (cm)		Abdominal (rep) *		Pushups (rep) *	
	M	F	M	F	M	F
Mean	22	21	36	23	24	15
Standard Deviation	11.24	9.65	13.13	7.89	11.94	8.10

* Significative statistical difference p=0,05

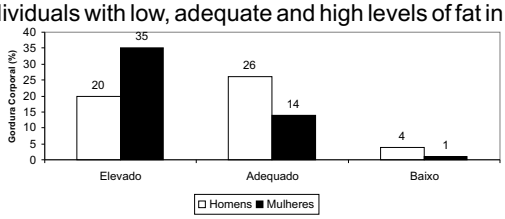
Graph 1 presents the percentage of nutritional status in men and women through the BMI. There was a significant rate of overweight for both men and women. The prevalence of obesity was higher in men.

Graph 1 Percentage of different BMI nutritional profiles in men and women



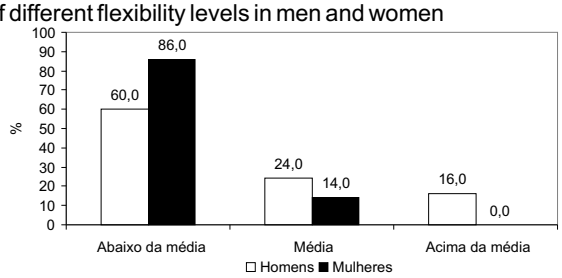
Graph 2 shows the percentage of individuals with the fat percentage below the appropriate, appropriate and above the appropriate for men and women. There was a significant frequency of women with body fat above the recommended compared to men.

GRAPH 2 Percentage of individuals with low, adequate and high levels of fat in men and women



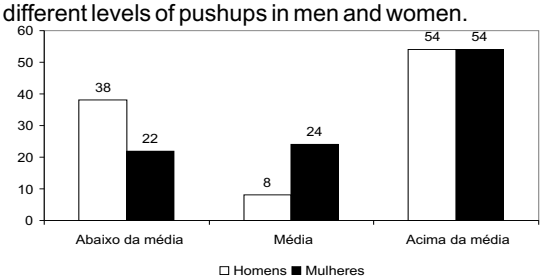
Graph 3, shows the percentage of individuals with the flexibility below, proper and above recommended for men and women. Most subjects presented low levels of flexibility. There was a significantly higher percentage of women with below-average flexibility.

GRAPH 3 Percentage of different flexibility levels in men and women



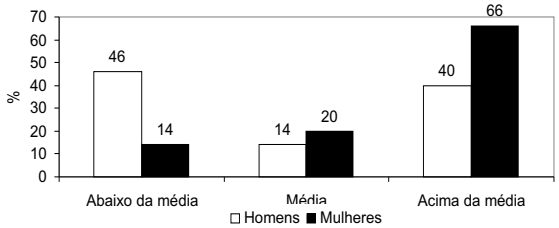
Graph 4 presents the percentages of people below, appropriate and above recommended for the test of pushups in men and women. There was a significant percentage above average for both men and women. The percentage of men below the recommended was significantly higher, compared to women.

GRAPH 4 Percentage of different levels of pushups in men and women.



Graph 5 shows the percentages of people below, appropriate and above recommended in the test of abdominal for men and women. There was a significant rate of women above average in comparison to men. The percentage of men with values lower than the recommended was significantly higher compared to women.

GRAPH 5 Percentage of different levels of abdominal crunches in men and women



Discussion

In this study, we found that men are taller and heavier than women. These results reflect the trend of higher values in height and weight from adolescence found in men (GALLAHUE; OZMUM, 2001), as the male initiates the process of maturing later than the females and have a greater period of growth and higher values of weight and height.

The BMI was significantly higher in men compared to women, suggesting that men are with the weight above the expected for their height. However, to verify that men have less body fat and more fat-free mass than women, it appears that the increased values of BMI in men are associated with lean mass and not to fat excess.

As for neuromotor variables in this study, there was no difference in flexibility between the genders. The power and muscle of the upper abdominal was higher in men compared to women This result is in line with the literature. Therefore, in absolute values, men are stronger than women, due to increased muscle mass (QUEIROGA, 2005).

Regarding the classification of the values of flexibility, this study has shown a great amount of people below the average, mainly women in the study protocol.

Regarding the test of pushups, the results were more encouraging. In this test, there was a great amount of subjects above average for both men and women. The men had a greater number below the average than women. This is because the protocols of men and women are different.

In the abdominal test, the results were similar. There was a significant rate above the average for women and men, which shows the fact that women seek greater burning of abdominal fat, and so we tend to do a higher number of abdominal repetitions, making muscles more strengthened. On the other hand, men look for hypertrophy in other members of the body, mainly their arms, not giving much importance to strengthening abdominal (Barbanti, 1996).

Conclusion

The results of this study showed that the abdominal and upper body strength, both in men and women, present satisfactory levels for health. For flexibility, the results were below average in both genders, which may be due to lack of activities for the development of flexibility, or the subjects are not doing the exercises correctly, resulting in muscle shortening.

Overweight and obesity were more presented in men than in women when comparing their BMI, the more body fat in relation to the table is inverted. Body fat percentage is higher in women. These results may be related to increased body fat of the general population or an inefficiency of activities that promote fat loss.

Further studies are suggested, with monitoring and tests performed before and after training programs to see if there are any improvements in physical qualities.

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RUA DOS ESCOTEIROS, 97, SANTANA
GUARAPUAVA, PARANÁ - CEP 85070-060
FONE (42) 3623-9023

MORFOFUNCTIONAL CARACTERISTICS OF PEOPLE WHO EXERCISE IN GYMS IN GUARAPUAVA-PR
ABSTRACT

Today, in our city, the demand for gyms is still small, as they are not the first option when it comes to practicing physical exercises in Guarapuava-PR. People who train in gyms in Guarapuava have different reasons for exercising and different morphological and functional profiles. The purpose of this study was to evaluate morphofunctional profile of who exercise in gyms in Guarapuava-PR. The sample consisted of 100 subjects, 50 male and 50 female, aged between 20 and 30 years complete, divided proportionally among the academies of the city. They were analyzed in relation to body mass index - BMI, body fat and lean mass, flexibility, power and upper abdominal members. The results showed that body fat is high in both genders, but significantly higher among women, the flexibility of the subjects was below average for both men and women and muscle strength of upper-body was above average for both genders. It is suggested that academies pay attention to the variables body fat and flexibility in an attempt to improve the components of physical fitness.

Key words: physical evaluation, gym, body composition.

PROFIL MORPHOFUNCTIONAL PRATICIENS D'ACTIVITÉ PHYSIQUE DANS DÊS GYMS DE GUARAPUAVA-PR
RESUME

Aujourd'hui, dans notre ville, est encore peu de demande pour les gyms, parce que ils ne sont pas l'option la plus demandée par la population pour sa pratique d'activité physique quotidienne. Les académies de la ville de Guarapuava sont recherchés pour des raisons différentes et par personnes de profils morphologique et fonctionnelle différents. Le but de cette étude était d'évaluer le profil morphofunctional praticiens d'activité physique dans dês gyms de Guarapuava-Pr. L'échantillon était constitué de 100 sujets, 50 hommes et 50 femmes, âgés entre 20 et 30 ans complet, divisé proportionnellement entre les gyms de la ville. Les ont été analysées par rapport à l'indice de masse corporelle - IMC, corps gras et sans gras masse, la flexibilité, la puissance supérieure de l'abdomen et des membres. Les résultats ont montré que les graisses de l'organisme est élevé dans les deux, mais nettement plus élevé dans les femmes. La flexibilité du évalués, pour les hommes et les femmes, est inférieur à la moyenne et la force musculaire des membres supérieurs est au-dessus de la moyenne. Il est suggéré que les gym Écouter pour les variables de graisse du corps et de la flexibilité dans le but d'améliorer les composantes de la condition physique des les personnes qui pratique d'activité physique dans les gyms.

Mots-clés: évaluation physique, gym, la composition corporelle.

PERFIL MORFOFUNCIONAL DE LA PRÁCTICANTES DE ACADEMIA DE LA CIUDAD DE GUARAPUAVA-PR
RESUMEN

Hoy en día, en nuestra ciudad, es todavía escasa demanda de las academias, no son la opción más demanda por parte de la población para su práctica de actividad física diaria. Las academias en la ciudad de Guarapuava se buscan por diferentes razones y por diferentes características morfológicas y funcionales perfiles. El objetivo de este estudio fue evaluar el perfil de los profesionales morfofuncionales de las academias de la ciudad de Guarapuava-Pr. La muestra consistió de 100 sujetos, 50 varones y 50 mujeres, con edades comprendidas entre los 20 y 30 años completa, dividida proporcionalmente entre las academias de la ciudad. El se analizaron en relación con el índice de masa corporal - IMC, la grasa corporal y masa libre de grasa, flexibilidad, potencia y abdominal superior miembros. Los resultados mostraron que la grasa corporal es alta en ambos, pero significativamente más alta entre las mujeres, la flexibilidad de las cuotas tanto para los hombres y las mujeres están por debajo de la media y la fuerza muscular de las extremidades superiores para ambos están por encima de la media. Se ha sugerido que academias Escuchar para las variables de grasa corporal y flexibilidad en un intento de mejorar los componentes de la aptitud física de los estudiantes.

Palabras clave: Evaluación Física, Academia, la composición corporal.

PERFIL MORFOFUNCIONAL DOS PRATICANTES DE ACADEMIA DA CIDADE DE GUARAPUAVA-PR
RESUMO

Hoje em dia, em nossa cidade, ainda é pequena a procura pelas academias, elas não são a opção mais procurada pela população para sua pratica de atividade física diária. As academias na cidade de Guarapuava são procuradas por diferentes motivos, bem como por diferentes perfis morfológicos e funcionais. O propósito do presente estudo foi avaliar o perfil morfofuncional dos praticantes de academias da cidade de Guarapuava-Pr. A amostra foi composta de 100 indivíduos, sendo 50 do sexo masculino e 50 do sexo feminino, com idades entre 20 e 30 anos completas, divididas proporcionalmente entre as academias da cidade. Os avaliados foram analisados em relação ao Índice de Massa Corporal - IMC, gordura corporal e massa livre de gordura, flexibilidade, potência de membros superior e abdominal. Os resultados demonstraram que a gordura corporal está elevada em ambos, mas significativamente maior nas mulheres, a flexibilidade dos avaliados tanto para homens como para as mulheres estão abaixo da média e a força muscular de membros superiores de ambos estão acima da média. Sugere-se que academias atentem para as variáveis gordura corporal e flexibilidade na tentativa de melhorar os componentes da aptidão física de seus alunos.

Palavras-chaves: Avaliação Física, Academia, Composição corporal.