34 - INFLUENCE OF A PERSONALIZED EXERCISES PROGRAM ON THE BODY COMPOSITION OF ADULTS.

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INTRODUCTION

Epidemiological studies conducted recently have found changes in lifestyle and eating habits in the past decades due to urbanization and industrialization. Associated with this, the increased availability of food and less physical activity resulted in alarming changes in the level of adiposity in developed nations and developing countries around the world, is a concern for health (LERARIO et al., 2002). The main result of these changes in the way of life is a higher incidence of overweight and obesity, regardless of age observed.

According to Nahas (2001) individuals are given greater importance to their quality of life, worrying about the negative modifiable factors that directly affect health, such as smoking, alcohol, drugs, dietary habits, among other.

Historically, resistance training was practiced exclusively by athletes who aimed at increasing levels of muscular strength and endurance, optimizing in this way, your sporting performance. Currently, this type of training is performed by a variety of subjects with and without chronic diseases, because this is also associated with favorable changes in cardiovascular function, metabolism, coronary risk factors and psychosocial well-being (BASS; FRANKLIN, 2006).

Campos (2000) indicate several benefits to the practice of bodybuilding, which are: increased lean body mass, increased secretion of anabolic hormones, decreased percent body fat, improved self-image, improved muscle strength and endurance, increased of cellular metabolism, maintenance of cellular metabolism higher, increased caloric expenditure, relocation or preservation of optimal alignment of the joints, increasing the rate of weight loss, greater loss of fat stores, increasing the likelihood of maintenance of the new body composition and acquired preventing the loss of muscle mass.

According to the American College of Sports Medicine (2000), a personalized exercise prescription is the process by which a program of physical activity recommended for certain individuals, prepared in a systematic and individualized, and shall establish the type, intensity, duration, the weekly frequency and progression of these components.

Since Miller (2006), an exercise prescription may vary according to interests, goals, previous experiences and initial levels of fitness. In most cases, the exercise prescription is aimed at improving general fitness, health promotion by a reduction of future risk of disease and changes in body composition.

Thus, keeping in mind the growth of approximately 25% of demand for personal training per year (BROOKS, 2008), and the benefits gained from the practice of such activity, this research has the main objective to analyze the influence of a customized training program on body composition of adults.

METHODOLOGY

This research was characterized as a descriptive cross-sectional design (Thomas et al., 2007), conducted with 12 individuals entering a program of systematic personal training in a gym in the city of Maringá - PR, from July to September 2011, and 9 (75.00%) females and three (25.00%) were male. Data were collected through anthropometric analysis performed by a single examiner trained and qualified in order to minimize the error within and between raters.

An assessment prior to commencement of activities with the student, allowing to check the general characteristics of the individual in order to determine their training needs and objectives, to assemble a custom periodization of resistance training.

We analyzed the following anthropometric variables: sex, age, weight, height, body fat percentage (BF%), body mass index (BMI), absolute body fat (AF), lean mass (LM) and waist-hip ratio (WHR). The skinfold measurements were performed in accordance with the guidelines of Petroski (2003), and its estimated calculation based equation proposed by Jackson and Pollock (1978) and classified according to Lohman (1992). BMI was obtained respecting the reason (BMI = weight / height ²) and the classification recommended by WHO (1995).

Then the patients underwent a systematic program of personal training gym, for a period of 03 (three) months with a weekly frequency of 03 (three) sessions of approximately 60 minutes each. These encompassed general stretching exercises, cardiorespiratory fitness and resistance training with free weights and strength equipment. Subject to the goals and individuality of each student.

The data were organized in spreadsheet Microsoft Excel 2007 ® to obtain the mean and standard deviation, was also submitted to descriptive statistics, t-test of Student and Chi-square (X^2) in the program MedCalc ®, is considered significant at $p \leq 0.05$.

RESULTS AND DISCUSSION

Tables 01 and 02 show the sample characteristics, differentiated by gender and also the population as a whole, being the first assessment and reassessment respectively.

Table 01. Sample general characterization in the first evaluation.

	Female	Male	Total
Age (years)	24,19 ± 4,49	20,81 ± 3,40	23,35 ± 4,37
Weight (Kg)*	59,64 ± 5,34	69,07 ± 6,65	62,00 ± 6,85
Height (m)*	1,64 ± 0,04	1,71 ± 0,02	1,66 ± 0,05
BMI	22,16 ± 2,03	23,47 ± 2,06	22,48 ± 2,15
%BF*	26,03 ± 3,40	14,13 ± 9,94	23,06 ± 7,44
AF (Kg)	15,62 ± 5,30	10,10 ± 7,94	14,24 ± 5,06
LM (Kg)*	44,02 ± 2,87	58,23 ± 2,32	47,38 ± 6,95
WHR	0,71 ± 0,03	0,83 ± 0,06	0,74 ± 0,07

*significant difference p≤0,05.

Table 02. Sample general characterization in the re-evaluation.

	Female	Male	Total
Age (years)	24,55 ± 4,29	20,89 ± 3,41	23,64 ± 4,28
Weight (Kg)*	60,43 ± 6,12	68,80 ± 6,02	62,53 ± 6,94
Height (m)*	1,64 ± 0,04	1,71 ± 0,01	1,66 ± 0,05
BMI	22,37 ± 2,00	23,38 ± 2,42	22,62 ± 2,05
%BF*	25,91 ± 3,67	13,20 ± 9,63	22,73 ± 7,73
AF (Kg)	15,79 ± 3,45	9,43 ± 7,36	14,20 ± 5,17
LM (Kg)*	44,64 ± 3,40	59,37 ± 2,80	48,33 ± 7,36
WHR	0,70 ± 0,00	0,85 ± 0,05	0,74 ± 0,07

*significant difference p≤0,05.

By analyzing these, it was observed that women have higher rates of age, %BF and AF, the values of the male population above the other variables in both evaluations. In the first evaluation was significant difference between the genders of height, weight, % BF and LM. In the second evaluation occurred only difference in height, %BF and LM, can be observed a mean weight gain of the female population and reducing the male population.

Figure 01 shows the distribution of men and women according to BMI classification. It was found that there was no change in the classification of the sample in two assessments being 83.33% of the population that are within the normal range and 16.67% were overweight, and there were no cases of low birth weight and obesity.

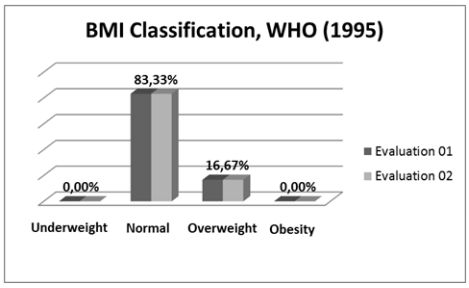


Figure 01. Sample classification according BMI in the realized evaluations.

Figure 02 shows the distribution of the general population according to the classification obtained from the %BF. With the analysis there was a decrease in cases of very high percentage and consequently an increase in cases above average, keeping the rate of percentage points below the average, and there were no cases of very low and average.

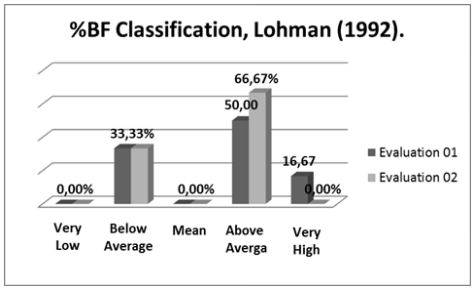


Figure 02. Sample classification according to %BF.

Since %BF an important index for the identification of health risks associated with very low or excessive body fat and intra-abdominal (HEYWARD and STOLARCZYK, 2000), could be verified with the data analysis has an impact more overweight and obesity in that population. The highest values were contacted in the female population, in view of the typical characteristics of body composition in female subjects (McARDLE et al., 1998).

Table 03 presents the analysis of the difference between assessments, contacting the female population had an increase in weight, BMI, AF, LM, and a reduction in rates of %BF and WHR. Since the male population increased by LM and WHR, the values of weight, BMI, %BF and GA inferior when compared to the first evaluation. No significant differences between the analyzed variables.

Table 03. Difference among analyzed variables among evaluations.

	Age (years)	Weight (Kg)	Height (m)	BMI	%BF	AF (Kg)	MM (Kg)	WHR
Female	0,36	0,79	0	0,21	-0,12	0,17	0,62	-0,01
Male	0,08	-0,27	0	-0,09	-0,93	-0,67	1,14	0,02
Total	0,29	0,53	0	0,14	-0,33	-0,04	0,95	0

FINAL CONSIDERATIONS

Therefore, we conclude that a personalized program of resistance exercise provides an increase in body weight and BMI and LM, is effective for reducing the rates of body fat. It should be emphasized the importance of an active front of the entrant adopting this program, keeping in mind that changing dietary habits and habitual practice of physical exercises are necessary for success, and consequently to improve the quality of life certainly contributes to health promotion.

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INFLUENCE OF A PERSONALIZED EXERCISES PROGRAM ON THE BODY COMPOSITION OF ADULTS.

Epidemiological studies conducted recently found changes in lifestyle and eating habits in the past decades. So individuals have given great importance to their quality of life, resulting in an increased demand for customized training, which is a form of training which may vary according to interests, goals, previous experiences and initial levels of fitness. Thus, keeping in view the growth of approximately 25% of demand for personal training per year and the benefits gained from the practice of that activity, the present study possessed the main objective to analyze the influence of a customized training program on body composition of adults. We analyzed 12 patients entering a systematic program of personal training at a gym in the city of Maringá - PR. With the results obtained that the female population had increased weight, BMI, TF, LM, and a reduction in rates of BF% and WHR. Since the male population increased by MM and WHR, the values of weight, BMI,% BF and TF reduced when compared to the first assessment. No significant differences among the analyzed variables. We conclude that a customized program of resistance exercise provides an increase in body weight and BMI and LM, being effective for reducing body fat indexes.

KEY-WORDS: Personalized training; body composition.

INFLUENCE D'UN PERSONNALISÉS EXERCICE DE RÉSISTANCE SUR LA COMPOSITION DES ADULTES.

Les études épidémiologiques menées récemment découvert changements de mode de vie et les habitudes alimentaires au cours des dernières décennies. Ainsi les individus ont donné une grande importance à leur qualité de vie, résultant en une demande accrue de formation sur mesure, qui est une forme de formation qui peuvent varier selon les intérêts, les objectifs, les expériences antérieures et les niveaux initiaux de fitness. Ainsi, compte tenu de la croissance d'environ 25% de la demande pour la formation personnelle par an et les bénéfices tirés de la pratique de cette activité, la présente étude possédait l'objectif principal d'analyser l'influence d'un programme de formation personnalisée sur la composition corporelle des adultes . Nous avons analysé 12 patients participant à un programme systématique de formation personnelle dans un gymnase de la ville de Maringá - PR. Avec les résultats obtenus que la population féminine a augmenté de poids, IMC, TF, LM, et une réduction des taux d'% BF et RTH. Depuis la population masculine a augmenté de MM et WHR, les valeurs de poids, IMC%, BF et TF réduit par rapport à la première évaluation. Aucune différence significative entre les variables analysées. Nous concluons que d'un programme personnalisé d'exercices de résistance fournit une augmentation du poids corporel et de l'IMC et LM, étant efficaces pour réduire les indices de graisse corporelle.

MOTS-CLÉS: Personnalisés exercise ; composition du corps.

INFLUENCIA DE UNUN PROGRAMA PERSONALIZADO DE EJERCICIO DE RESISTENCIA SOBRE LA COMPOSICIÓN DE ADULTOS.

Los estudios epidemiológicos realizados recientemente han encontrado cambios en el estilo de vida y hábitos alimenticios en las últimas décadas. Así, los individuos se dan más importancia a la calidad de vida, lo que resulta en una mayor demanda de formación a medida, que es una forma de entrenamiento que pueden variar en función de los intereses, objetivos, experiencias previas y de los niveles iniciales de aptitud. Por lo tanto, teniendo en cuenta el crecimiento de aproximadamente el 25% de la demanda de formación personal por año y los beneficios obtenidos de la práctica de dicha actividad, esta investigación tiene como objetivo principal analizar la influencia de un programa de entrenamiento personalizado en el la composición corporal de los adultos. Se analizaron 12 individuos que entran en un programa de capacitación sistemática personal en un gimnasio en la ciudad de Maringá - PR. Con los resultados se encontró que la población femenina tuvo un aumento de peso, IMC, GA, MM, y una reducción en las tasas de% GC y la RCC. Dado que la población masculina aumentó en MM y la RCC, los valores de peso, IMC,% GC y GA inferiores en comparación con la primera evaluación. No hubo diferencias significativas entre las variables analizadas. Se concluye que un programa personalizado de ejercicios de resistencia proporciona un aumento en el peso corporal y el IMC y el MM, y eficiente para la reducción de los índices de grasa corporal.

PALABRAS-LLAVE: Programa personalizado de ejercicio; composición.

INFLUÊNCIA DE UM PROGRAMA PERSONALIZADO DE EXERCÍCIOS RESISTIDOS SOBRE A COMPOSIÇÃO DE INDIVÍDUOS ADULTOS.

Estudos epidemiológicos realizados recentemente constataram mudanças no estilo de vida e hábitos alimentares ocorridos nas últimas décadas. Assim, os indivíduos têm dado maior importância à sua qualidade de vida, acarretando em maior procura pelo treinamento personalizado, sendo esta uma forma de treinamento que pode variar de acordo com interesses, objetivos, experiências prévias e níveis iniciais de aptidão. Desta forma, tendo-se em vista o crescimento de aproximadamente 25% da procura por treinamento personalizado ao ano e os benefícios adquiridos com a prática da referida atividade, a presente pesquisa possuiu como objetivo principal analisar a influência de um programa de treinamento personalizado sobre a composição corporal de indivíduos adultos. Foram analisados 12 indivíduos ingressantes de um programa sistematizado de treinamento personalizado em uma academia da cidade de Maringá – PR. Com os resultados obteve-se que a população feminina obteve aumento de Peso, IMC, GA e MM, e uma redução nos índices de %GC e RCQ. Já a população masculina apresentou aumento de MM e RCQ, sendo os valores de Peso, IMC, %GC e GA inferiores quando comparados com a primeira avaliação. Não ocorrendo diferença significativa entre as variáveis analisadas. Conclui-se que um programa personalizado de exercícios resistidos proporciona um aumento do peso corporal, bem como do IMC e da MM, sendo eficiente para a redução dos índices de gordura corporal.

PALAVRAS-CHAVE: Treinamento personalizado; composição corporal.