80 - LEVEL OF PHYSICAL ACTIVITY AND COMPOSITION OF THE DIET IN PRACTICING YOUNG ADULTS OF SWIMMING

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INTRODUCTION

The overweight and obesities have been associates with appear of diverse metabolic dysfunction, such as, diabetes tipe2, cardiovascular hypertension, problems and even though some types of cancer (ROBINSON, 2005; ST-PIERRE AC, 2005). Therefore, they have contributed for the increase of the indices of death for all the causes (BLAIR, 1995).

To revert this picture the adoption of methods directed toward the increase of the lean mass is necessary, with the consequent increase of the metabolic conditioning and the mobilization of the lipids, mainly in the fabric adipose, the framework, liver, heart, muscles and in plasmatic lipoproteins. One of the methods that can lead to this objective is the physical activity (CHEN, 2004).

Diverse factors have been associates to appear of the obesity. However, the relation enters the amount of calories proceeding from the diet - energy consumption and the amount of calories proceeding from the energy expense with the daily physical activities - energy demand, comes being accepted as determinative the most important one to the modifications in the parameters of the body composition, mainly in the ratio of the fat mass (SANDE & MAHAN, 1994).

However, the composition of the diet, considering the amount of energy proceeding from the ratio of proteins, lipids and carbohydrates, can contribute for alterations in the energy balance, leading to a bigger accumulation in the amount of fat mass (exactly not presenting a raised caloric ingestion), by means of a disequilibrium between the consumption and the oxidation of the ingested macronutrients, mainly in relation to the ratio of lipids in the diet (POELMAN & MELBY, 1998).

The development of studies that they look to raise information on the physical activity and composition of the diet, will be able to make possible the development and implementation of interventionist actions, in way that if can prevent and control the indices of overweight and obesity, a time that the effect of the ingestion of a balanced feeding, associated to practical the regular one of exercise is vital to healthy physiological balance. In this perspective, the present study if it considers analyze the profile of the level of physical activity and composition of the diet in practicing adult individuals of the masculine sex of swimming.

MATERIALS AND METHODS

The subjects that had participated of this study were practicing of swimming in the Center of Sports - CED in the Federal University of the Paraná - Brasil - UFPR. As procedure for the composition of the sample one adopted the following criteria:) it refuses of the evaluated one in participating of the work; b) not to be submitted to some type of diet of control of weight e; c) not to be using medicines that intervene with appetite and d) not to be smoking. Being thus, the sample was composed for a group of 11 young adults of the masculine sex.

For the survey of the information on the composition of the diet, the instrument of dietary register was appealed to it, elaborated specifically to take care of the necessities of the study. To proceed the survey from the information the evaluated one previously was guided to identify to all ingested foods, also drinks, during the period of 3 days of the week (VASCONCELLOS, 1993). In the sequence, by means of the use of Software Program of Support to the Nutrition - Version 1.5, developed for the Center of Computer science in Health of the São Paulo - Brasil - School of Medicine, determined the total energy consumption and the medium, being this for kilogram of corporal weight per day (kcal/day) and the average ratio (%) of the amount of calories proceeding from the carbohydrates, lipids and proteins.

The daily energy demand was esteem by means of the analysis of the daily physical activities (sum of the energy cost), for intermediary of the instrument of self-memory register, considered for Bouchard et al. (1983). To proceed the register from the activities, the day was divided in 96 periods of 15 minutes each. For each period of 15 minutes, the evaluated one identified the type of carried through physical activity. The survey of the referring information to ingested foods and the carried through physical activities, had been effected by the proper ones evaluated, from previous instructions, during 3 days of the week, being two days of the week (second-sixth) and plus one day of the week end (Saturday or Sunday).

For the effect of the result, with regard to the pointers of the composition of the diet and the level of the physical activity, one considered the definitive average values from the calculation of the weighed mean, enters the three days of register of the information in the days of the week and one day of the week end. The corporal mass was gotten in a scale mechanics of the Welmy© mark, with capacity of 0 the 150 kg, possessing divisions of 100g.

To proceed the analysis statistics, initially the data had been tabulated in a spread sheet of the Microsoft Excel. Average and shunting line standard had been used to get the descriptive analysis of the sample.

RESULTS AND DISCUSSIONS

The descriptive results of the 0 variable of the composition of the diet and energy demand can be observed in Table 1 and 2.

Table 1. The variable associates to the composition of the diet of the studied individuals (n=11).

Variable of the study	$\bar{X}$	sd
Age	21,23	4,26
Body Mass	79,21	10,73
Stature	178,60	9,56
BMI	24,8	3,5
Total Caloric Ingestion	2140,56	1077,31
Energy Suppliment (kcal/kg/dia)	32,47	13,51
Ratio of Proteins (%)	19,27	5,19
Ratio of Carbohydrates (%)	53,81	5,62
Ratio of Lipids (%)	27,79	4,21

x = Average; sd = shunting line standard; BMI = Body mass index kg/m^2

Table 2. Variable associates to the level of physical activity of the studied swimmers (n=11).

Variable of the study	X	sd
Total Energy Demand	3184,8	419,23
Energy Demand (kca/kg/dia)	41,0	3,35

x = Average; sd = shunting line santandard

With regard to the composition of the diet, the average of the ratio of the energy nutrients (%), and the recommendations proposals if they find in figure 1.

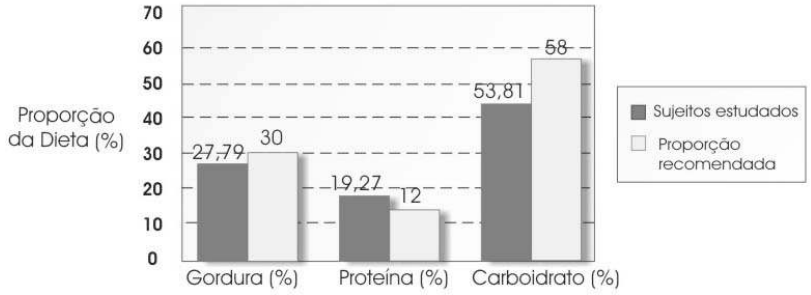

Figure 1. Average of the ratio of the macronutrients of the diet of the swimming practitioners and nutritional recommendation according to Mahan (2005)

Evidences of greasy the ingestion of total fat as certain acid with incidence of cardiovascular illnesses exist, thus forming a favorable lipid profile for the metabolic shunting line occurrence (NESTEL, 2005; COELHO, 2005). In this direction, numerous scientific associations today recommend that the total fat is less than 30% of the total ratio of the diet. For a diet of 2000 kcal the total fat would be of 67 g/dia (MAHAN, 2005). Given the displayed one above, to the sample if it in accordance with finds the recommendation of the ingestion of fats praised by literature, being these in the standard for health (MAHAN, 2005; CHAMPE, 2006).

For Mahan (2005), it does not have nutritional recommendation for carbohydrates. Into the absence of this nutrient, the amino acids and glycerol of the fats can be converted into glucose for the nutrition of the brain and the central nervous system. However a diet without at least 50 to the 100 gram of carbohydrate per day is probable to lead to ketoses breaks extreme of tissue protein, loss of sodium and others cations and involuntary dehydration. However, Champe (2006) tells that for a balanced diet, the ratio of carbohydrate of an individual must be for 58% return.

Being thus, the swimming practitioners are 4, 19% below of the recommended one for the consumption of carbohydrate, being able to compromise of the performance of the same ones in trainings. With regard to the protein consumption, the evaluated ones if find 7.27% above of the praised one for the health, where according to Champe (2006), the ratio of the protein ingestion ideal if finds around 12% of the total diet. In accordance with Mahan (2005) the committee of the daily recommendations (RDA) also recommends the superior limit of protein ingestion not more than what two times to the RDA, reflecting concern that the time of life of an ingestion in protein excess can speed up the sclerosis to glomerular renal associate to the age and to influence the development of osteoporosis potentially, as well as to confer a renal overload.

However, the physically active people do not need nutrients add, beyond those gotten through a balanced diet. In essence, the good nutrition for equal athlete and to a good nutrition human being. An energy demand daily total 3,000 kcal for men represents the average values for typical adults and young. Individuals that regularly participate of moderate activity the intense one finish increased the daily energy consumption in order to correspond to its higher level of energy great expense this adjustment occur in unconscious way of form to balance rigorously its production of energy (KATCH & McARDLE, 2003).

As for the level of the physical activity (Kcal/kg/dia) for physically active individuals, found in programs of physical exercises, the sample if finds in the standards recommended for Thompson (1998) and with risks reduced for contraction of metabolic illnesses (LAMONTE, 2005). All the swimming practitioners had expressed its aquatic activities as being of category 8 in the self-memory questionnaire of 3 days of Bouchard (1983), where the same category is express for activities of leisure and practical of you export of high intensity demanding around 1.0 kcal/kg/15 min. Being thus, taking in consideration the general weight of the subjects, the same ones spend 316 on average kcal for the moment of trainings, totalizing in 3 sessions of trainings for week, therefore 950 calories/week. Following this reasoning, according to Nahas (2001), a moderately active individual to be considered, must carry through physical activities that accumulate a weekly energy expense of, at least, 1000 kcal.

As Maglischo (1999), practitioners of swimming of enters the 18 25 years that train 1h/dia need one arrive in port caloric enter the 3000 3600 calories/day. However, the sample possess a caloric ingestion around 2140,56 ± 1077.31 calories/day, showing, in the generality a consumption caloric below of the ideal. With regard to the energy rocking, the citizens if on average find in a negative rocking of 1044,24 calories/day.

However, for one better exploitation in the trainings the swimming practitioner needs to increase it arrives in port form caloric to keep an energy balance. Hyper-caloric diets have been reported in literature showing that the same, ally the practical one of regular physical activities can be beneficial to the health of individual. In this way, as Duarte (2001) the interaction of Hyper-caloric diets with physical activity can contribute for the prevention of dislipidemia and obesity, as she evidenced when exercising rats in swimming training, fed with Hyper-caloric diet. Similar results could have been observed by Ross et. al. (2000) when exercising individuals with and without caloric restriction.

Exactly not having reduction of weight in the group that did not make caloric restriction, the authors had evidenced that reduction of the fabric occurred adipose abdominal, being this associated factor the cardiovascular illnesses and diabetes mellitus of type 2.

CONCLUSION

On the basis of the results found in the study, concluded that with regard to the levels of physical activity, the individuals seem to present style of an active or moderately active life. The ratio of proteins showed to be above of the consumption standards what it can confer a renal overload. On the other hand they had demonstrated to consume a lesser ratio of carbohydrate, thus being able to compromise the income of the trainings. The amount percentile of lipids if finds in the accepted standards for the health. The sample demonstrated a negative energy rocking, where it caloric arrives in port does not correspond of ideal form to the objectives of the swimmers, a time that a lesser supply of glycogen to intramuscular modulates the motivation of the practitioner in its modality.

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LEVEL OF PHYSICAL ACTIVITY AND COMPOSITION OF THE DIET IN PRACTICING YOUNG ADULTS OF SWIMMING

ABSTRACT

The effect of the ingestion of a balanced feeding, associated to practical the regular one of exercise are vital to the physiological balance and consequently it reflects in the health of the individual. The objective of this study was to verify the profile of the level of physical activity and composition of the diet in practicing adult individuals of the masculine sex of swimming. Ratio of macronutrients of the diet (VASCONCELLOS, 1993) and the energy demand (BOUCHARD et al, 1983) in 11 practitioners of swimming was verified it (21,23 ± 4,26 years). Of general form the swimmers had moderately presented to be active. The protein ingestion was 7.27% above of the consumption standards, had demonstrated to consume a lesser ratio of carbohydrates (53.81%) in the diet and amounts recommended for the health of lipids (27.79%). The sample demonstrated a negative energetic equilibrium, where it caloric arrives in port does not correspond of ideal form to the objectives of the swimmers.

Keywords: energy demand, energy expense, swimming.

NIVEAU D'ACTIVITÉ PHYSIQUE ET COMPOSITION DU RÉGIME EN PRATIQUANT DE JEUNES ADULTES DE LA NATATION

ABSTRAIT

L'effet de l'ingestion d'une alimentation équilibrée, associée à pratique la régulière de l'exercice sont essentiel à l'équilibre physiologique et par conséquent il se reflète dans la santé de l'individu. L'objectif de cette étude était de vérifier le profil du niveau de l'activité physique et de composition du régime dans les individus de pratique d'adulte du sexe masculin de la natation. Le rapport des macronutrients du régime (VASCONCELLOS, 1993) et de la demande énergétique (BOUCHARD et autres, 1983) dans 11 praticiens de natation lui a été vérifié (± 21.23 4.26 ans). De forme générale les nageurs s'étaient modérément présentés pour être en activité. L'ingestion de protéine était 7.27% ci-dessus des normes de consommation, avait

démontré pour consommer un peu de rapport des hydrates de carbone (53.81%) dans le régime et les montants recommandés pour la santé des lipides (27.79%). L'échantillon a démontré un équilibre énergique négatif, où il calorique arrive dans le port ne correspond pas de la forme idéale aux objectifs des nageurs.

Mots-clés : demande énergétique, dépenses d'énergie, nageant.

NÍVEL DE ACTIVIDAD FÍSICA Y COMPOSICIÓN DE LA DIETA EN ADULTOS JOVENS PRATICANTES DE NATACIÓN

RESUMEN

Los efectos de la ingestión de una alimentacion equilibrada, asociada àcon la prática regular de ejercicio son vitales al equilibrio fisiologico y conseqüentemente reflete en la salud del indivíduo. El objectivo deste estudio fue verificar el perfil del nivel de actividad fisica y la composición de la dieta en indivíduos adultos del sexo masculino praticantes de natación. Verifico la proporción de macronutrientes de la dieta (VASCONCELLOS, 1993) y el gasto energético (BOUCHARD et al, 1983) en 11 praticantes de natación (21,23 ± 4,26 anos). De forma general los nadadores presentaran ser moderadamente activos. La ingestión de proteínas fue 7,27% acima de los padrones de consumo, demonstraran consumir una menor proporción de carbohidratos (53,81%) em la dieta y quantidades recomendadas para la salude de lipídeos (27,79%). La muestra demonstro uno equilibrio energético negativo, donde el aporte calorico no corresponde de forma ideal al los objectivos de los nadadores.

Palabras-Claves: equilibrio energética, gasto energético, nadadores.

NÍVEL DE ATIVIDADE FÍSICA E COMPOSIÇÃO DA DIETA EM ADULTOS JOVENS PRATICANTES DE NATAÇÃO

RESUMO

Os efeitos da ingestão de uma alimentação balanceada, associada à prática regular de exercício são vitais ao equilíbrio fisiológico e conseqüentemente reflete na saúde do indivíduo. O objetivo deste estudo foi de verificar o perfil do nível de atividade física e composição da dieta em indivíduos adultos do sexo masculino praticantes de natação. Verificou-se a proporção de macronutrientes da dieta (VASCONCELLOS, 1993) e a demanda energética (BOUCHARD et al, 1983) em 11 praticantes de natação (21,23 ± 4,26 anos). De forma geral os nadadores apresentaram ser moderadamente ativos. A ingestão de proteínas ficou 7,27% acima dos padrões de consumo, demonstraram consumir uma menor proporção de carboidratos (53,81%) na dieta e quantidades recomendadas para a saúde de lipídeos (27,79%). A amostra demonstrou um balanço energético negativo, onde o aporte calórico não corresponde de forma ideal aos objetivos dos nadadores.

Palavras-Chave: demanda energética, gasto energético, nadadores.