125 - NUTRITION KNOWLEDGE AND NUTRITIONAL PRACTICE OF PHYSICAL ACTIVITY TEACHERS IN PELOTAS, RS

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Introduction

The importance of the relation between nutrition and physical exercise is proved based on the improvement of the performance of the human system under adequate nutrition associated with balanced ingestion of all nutrients, such as carbohydrates, fats, proteins, minerals and vitamins (ARAÚJO & SOARES, 1999). With the advent of the nutrition supplements, these substances soon ingressed in the gymnastics academies aiming to potentialize the results obtained through physical exercises. This happened because many individuals seek for rapid means to achieve their goals (ROCHA & PEREIRA, 1998).

It is verified, hence, that the Physical Education professionals are concerned with the quality of their clients´ nutrition. In many cases the professionals give general orientation related to the consumption of certain nutrients, whose effects on health are not completely understood (GUTIERRI et al, 2002). This Physical Education professionals´ knowledge about nutrition and their competence in providing nutritional orientation is questioned. And this questioning is justified by the fact that il-structured diet and undue use of nutritional supplements can jeopardize health, potentializing the risk to develop diseases, vitamin and mineral scarcity, as well as nutritional disorders.

In the light of the exposed above, this work has as its main objectives to establish the nutritional profile of Physical Education teachers, as well as to investigate habits and knowledge concerning sports nutritional supplementation in gymnastics academies in the town of Pelotas, RS.

Methodology

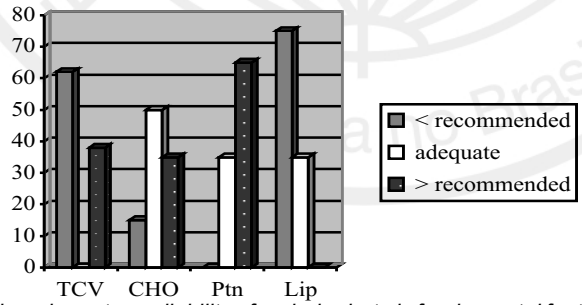
The sample was composed by Physical Education teachers (48 professionals, chosen at random, aged between 21 and 50 years-old, and being 21 female and 27 male), acting in gymnastics academies located in downtown Pelotas, RS. The study was conducted between May and June 2005. The data collecting was effected through the use of close-questionnaire following the technique of individual interview. The questionnaire consisted of questions about the evaluation of nutritional knowledge as well as questions related to the consumption of supplements, and it was adapted from ARAÚJO et al (2002).

For the nutritional evaluation of the teachers it was used a daily record of nutrition form during three different days, in the period of one week. Saturdays and Sundays were excluded because they are atypical days concerning nutrition. The method used to calculate the Total Caloric Value (TCV) was obtained through the Harris-Benedict formula (MAHAN & SCOTT-STUMP, 2002), which was considered more adequate for taking into account gender, age, and time of physical activity practiced. The data collected were tabulated and expressed in percentage. The Dietwin software (2003 version) was used for the average estimate of consumption and the analysis of adequacy of nutrients.

Results and Discussion

In figure 1, it is observed the caloric adequacy and the micronutrients proportion present in the diet of the sample, taking into account type of activity, energy spent while teaching classes, gender, weight and stature. Through the TCV it was verified that 63% of the sample presented an energetic consumption below the recommended needs. Concerning the macronutrients distribution percentage, only 50% of the researched individuals showed adequacy in the carbohydrate consumption. For the lipids, 75% presented consumption below the adequacy percentage. On what refers to the proportion of proteins consumption, 64,6% of the sample presented consumption above of what is recommended.

Figure 1 - Analysis of caloric adequacy and of proportion of macronutrients in the nutrition of teachers in gymnastics academies.

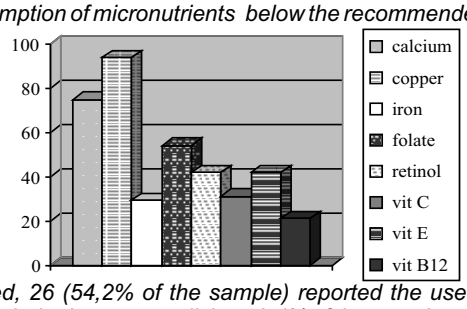


Some works report that the adequate availability of carbohydrate is fundamental for the performance in a physical activity, recommending the ingestion of this nutrient before, during and after the exercise (KAZAPI & RAMOS, 1998; WILLIAMS, 1995; COYLE, 1992). In relation to the protein ingestion many authors suggest that its consumption be around 15% of the TCV; this percentage seems to be enough to make up for the needs of sports-people and athletes. In addition, there is little scientific evidence that justify a higher consumption aiming to increase muscular mass (McARDLE et al, 1992; KREIDER et al, 1993; LEMON, 1996). It is important to mention that there are no advantages with the increase of protein ingestion above 2g/kg of body weight. On the contrary, there can be observed undesirable effects such as kidney overload (ODRIOZOLA, 1988).

As for the lipids, besides presenting energetic functions, they are utilized in the synthesis of hormones, in the structure of cell membrane, and they act as a vehicle for liposoluble vitamins. People who practice sports should receive orientation to ingest around 20 and 30% of total caloric consumption under the form of this nutrient (SOARES, 2001; KAZAPY & RAMOS, 1998; GUERRA, 2002).

In figure 2, it is observed the percentage of distribution of individuals who presented micronutrients consumption below the recommended. It is noticeable among all of them a deficiency in the ingestion of calcium (75%), copper (94%), tocoferol (42%), folate (54%), retinol (41,66%), vitamin B_{12} (21%), and, in inferior proportions, deficiency in ascorbic acid (31%) and iron (29%).

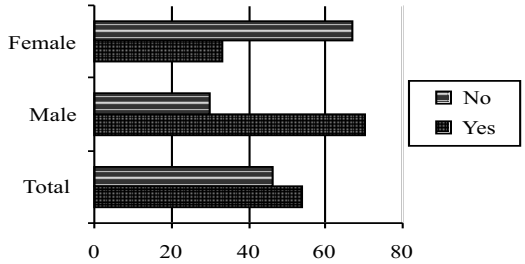
Figure 2 - Percentage of consumption of micronutrients below the recommended.



Of the 48 teachers interviewed, 26 (54,2% of the sample) reported the use of supplements. The group of nutritional supplement users was constituted, in its majority, by men, totalizing 70,4% of the sample analysed while 33,3% were women. This fact was observed in an article reported by ROCHA & PEREIRA (1998), in which 32% of the sample used some kind of supplement. Among these, 68,7% of the sample was constituted by men who practiced bodybuilding. As for the population in general, CARDOSO (1994) indicates that 40-67% of the American population and 47% of the Australian population use some form of supplement.

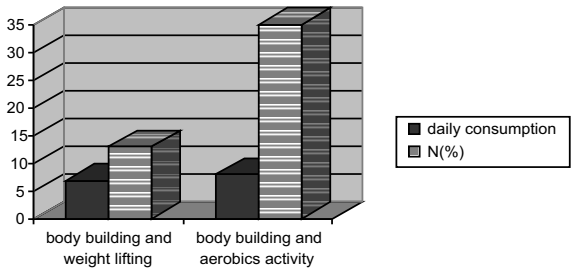
In figure 3, it is represented the distribution of the use of nutritional supplements.

Figure 3 - Distribution of the use of nutritional supplements, according to gender.



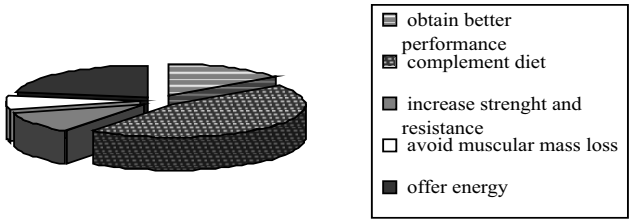
In figure 4, it is verified the relation between the kind of physical activity of the teachers and the use of nutritional supplements. It is observed that of the 27,1% of the teachers who practice exclusively bodybuilding and/or weight lifting 53,8% make everyday use of supplement. On the other hand, among the 72,9% of the teachers who practice bodybuilding and aerobics activities only 22,8% make everyday use nutritional supplement.

Figure 4 - Distribution of the type of activity developed in the academy and the everyday frequency of nutritional supplement consumption.



In figure 5, there can be found the justifications reported by the teachers concerning the consumption of supplements. Among them: "complement everyday nutrition", "promote better performance", "postpone muscular fatigue", "avoid muscular mass loss", "increase physical resistance and strength", among others.

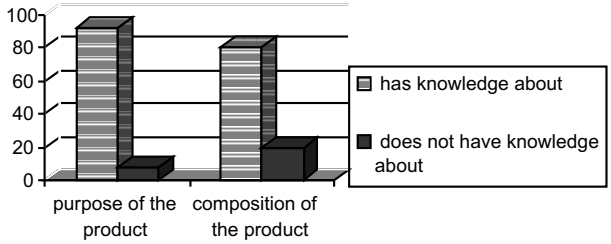
Figure 5 - Distribution of academy teachers´ opinions concerning nutritional supplement consumption.



Among the most consumed products, reported by both genders, are: Maltodextrine (46%), Whey Protein (54%), Creatine (19%), Protein Shakes (15%), Hypercalorics (8%), Isotonic drinks (8%). The current dietary supplements, which are numerous, cause controversy among scientists due to their possible effects, risks and benefits, which leads to confusion among consumers. The definitions of supplement are too broad and do not contribute to the clarification of their functions to the lay public (PEREIRA et al, 2003).

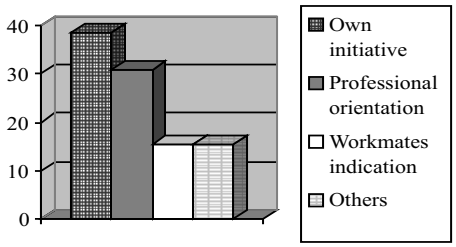
When it was asked to the group of users of supplements if they knew the composition of the product they used and what was its purpose (figure 6), 81% reported that they knew the composition and 19% were not able to answer. As for the purpose of the product, 92% were able to define its purpose while 8% were not. Among the justifications reported concerning the purpose of the product, the answers were: "weight reduction", "energy ", "protein reposition", "muscular hypertrophy", etc.

Figure 6 - Supplement consumers´ knowledge about product composition and its purpose.



In figure 7, there can be observed factors mentioned as decisive to the choice of nutritional supplements. Ten teachers started nutritional supplementation on their own initiative, eight teachers reported to have started to use supplements under professional orientation (of a nutritionist or of a sports doctor), four teachers started to use supplements under workmates indication and other four teachers reported that they have been influenced by other reasons.

Figure 7 - Factors leading to consumption of nutritional supplements.

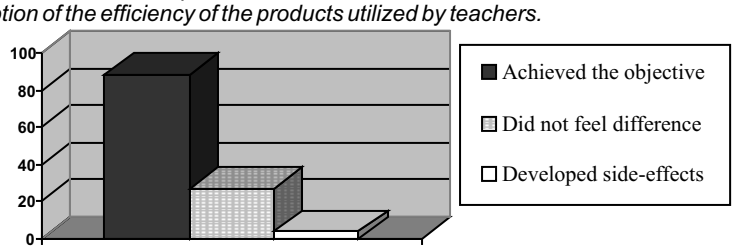


Approaching the same issue PARR et al (1984) [in: LOLLO et al (2003)], reported that the majority of technicians and athletes obtain their knowledge about nutrition from advertisement, workmates or relatives, but the majority of these sources do not have enough and reliable information about nutrition. There are also a large number of misleading concepts, erroneous information and dogmas concerning the issue.

This deficiency in the educational function also seems to be present on the behaviour of teachers in Goiânia, Brazil. Research carried out in that town (ARAÚJO, ANDREOLO & SILVA, 2002) detected that the use of anabolic steroids was high and that the teachers or instructors were the great responsible for indicating the consumption of such substances.

When it was analysed the perception of the efficiency of the supplements used by the teachers (figure 8), it was observed that 88% of the interviewed teachers answered that they had achieved their objective, while 12% did not observe difference and/or did not achieve the expected result. One teacher (3,8%) reported to have suffered health problems, such as the development of kidney overload, leading him to suspend the use of the product.

Figure 8 - Perception of the efficiency of the products utilized by teachers.



As for the Professional orientation for the utilization of nutritional supplements, it was noticed that 58,3% of the sample never received orientation from a qualified professional and that 41,7% had received orientation casually, being this group constituted in its majority by men (27,1%). In work carried out by ROCHA & PEREIRA (1998), only 25,5% of the group of supplement consumers had received orientation from a professional of the health area.

When it was asked if they were able to describe the composition of a balanced nutrition according to the percentage of macronutrients, 89,6% of the sample answered the question affirmatively. However, when the description of the nutritional diet was made it was incorrect. In general, the sample defined that a healthy nutrition would be related to hyperproteic diets, with percentages of 25-35% of the nutrient. Only five among the interviewed teachers (10,4% of the sample) reported that they did not know how the macronutrients of a balanced dietary nutrition are divided.

In relation to teachers´ knowledge concerning the importance of carbohydrates in the physical activity, 83,3% were able to give adequate answers about the function of this nutrient for people who practice physical activities, but 16,7% were not able to answer the same question. Among the obtained answers are: "source of energy, renovator of glycogen storage", "they provide energy support for physical activity", "regulate glycemic levels", "avoid hypoglycemia", "preserve protein catabolism", among others.

When assessed about the description of a healthy nutrition, 71% of the sample provided correct answers, such as "necessity to fraction meals; vary the types of food; ingest fruit, greens, root and salad vegetables as well as brown bread and liquids; do no fast for long periods". Only one teacher mentioned the food pyramid as a parameter for dietary orientation. The others (29%) were not able to answer adequately and/or did not state their opinion.

Conclusions

Gymnastics academy teachers present an inadequate nutritional behaviour concerning the consumption of macronutrients (carbohydrates, proteins, and lipids), energy and determined micronutrients (calcium, iron, folate, copper, vitamin C, tocoferol, etc). The utilization of supplements, among the researched teachers, is basically a result of indication by non-qualified people, or by consumers´ own initiative, or yet by advice of a physical coach, the media or marketing.

It was noticed the existence of misleading concepts concerning the description of a balanced nutritional diet, and the connection of these with exaggerate consumption of protein as well as the use of supplements without nutritional orientation. It must be stressed the importance of a healthy and balanced diet over isolated specific nutrients, inasmuch as various types of food have more than one factor that brings benefits to health.

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NUTRITION KNOWLEDGE AND NUTRITIONAL PRACTICE OF PHYSICAL ACTIVITY TEACHERS IN PELOTAS, RS

Abstract

The present article aimed to investigate the nutrition knowledge and the nutritional practice of Physical Education teachers in gymnastic academies located in downtown Pelotas, Rio Grande do Sul, Brazil. The sample was constituted of 48 teachers, being 21 female and 27 male, aged between 21 and 50 years old. General data as well as nutrition-related knowledge were collected through a close-questionnaire. To evaluate nutritional consumption it was utilized the nutritional daily record of meals during three alternate days. The analysis of dietary adequacy was made with the utilization of the Dietwin software (2003 version). The results show that the professionals not only do not know the correct way of distributing macronutrients but also do not pay the proper attention concerning the ingestion of nutritional supplements. In general, the nutrition of female teachers showed to be hypocaloric, hyperproteic and hypolipidic while the nutrition of male teachers consisted of hyperproteic diets and ingestion of nutritional supplements. It was also verified the existence of misleading concepts both in relation to the description of a balanced diet and to the use of supplements without nutritional orientation. Key words: nutrition knowledge, nutritional practice, teachers, Physical Education.

CONNAISSANCES DE NUTRITION ET HABITUDES ALIMENTAIRES DES PROFESSEURS DANS DES ACADÉMIES DE GYMNASTIQUE DE PELOTAS, RS.

Résumé

Ce travail a pour objectif d'analyser les connaissances en nutrition et les habitudes alimentaires des professeurs d'Éducation Physique dans des académies de gymnastique localisées dans la zone centrale de la ville de Pelotas, Rio Grande do Sul, Brésil. L'échantillon est constitué de 48 professeurs âgés de 21 à 50 ans, 21 appartenant au sexe féminin et 27 au sexe masculin. Les données générales et relatives aux connaissances en nutrition ont été rassemblées à partir d'un questionnaire. Pour évaluer la consommation alimentaire, le registre alimentaire quotidien correspondant aux repas pendant 3 jours consécutifs a été utilisé. L'analyse de l'adéquation diététique a été faite en utilisant le logiciel Dietwin (version 2003). Les résultats ont montré que les professionnels ne connaissent pas la forme correcte de distribution de macronutriments et la manière d'ingérer des suppléments nutritionnels. De façon générale, l'alimentation des professeurs du sexe féminin s'est avérée hypocalorique, hyperprotéique et hypolipidique et celle des professeurs masculin correspond à de régimes hyperprotéinés et avec une plus grande consommation de suppléments nutritionnels. Nous avons encore constaté l'existence de concepts confus concernant la description d'un régime alimentaire équilibré et l'utilisation de suppléments sans orientation nutritionnelle.
Mots-clés : connaissances de nutrition, habitudes alimentaires, enseignants, Education Physique

CONOCIMIENTOS DE LA NUTRICIÓN Y DE LOS HÁBITOS ALIMENTARIOS DE LOS PROFESORES EN GIMNASIOS DE LA CIUDAD DE PELOTAS, RS.

Resumen

Esto artículo tuvó por proposición la investigación de los conocimientos básicos de la nutrición y habitos alimentarios de maestros de la Educación Física en los gimnasios localizados en la región central de la ciudad de Pelotas, Rio Grande do Sul. La muestra analizada estuvo compuesta de 48 profesores, de los cuales 21 hembras y 27 varones, con las edades de los 21 a los 50 años. Fuerón recogidos datos generales y relativos de los conocimientos nutricionales de los componentes de la muestra a través de una encuesta determinada. Con la finalidad de hacer la evaluación del consumo alimentar, se utilizó los datos del registro diário de la ingestión alimentar durante 3 días alternos. El análisis de la adecuación dietética se realizó a través del software Dietwin (versión 2003). Los resultados mostrarón que los profisionales desconocian el modo correcto de la distribución de los maronutrientes y de la ingesta de los suplementos nutricionales adecuados. De un modo general, la alimentación de las profesoras se presentó hipocalórico, hiperproteico e hipograsa, en cuanto que, por otro lado, los profesores presentarón una dieta hiperproteico, acompanada de una ingesta más grande de suplementos nutricionales. Fue también observado que ocurrió una equivocación en relación a la descripción de una dieta nutricional adecuadamente equilibrada y sobre los usos de suplementación sin la orientación nutricional. Palabras-clave: habitos alimentares, profesores, Educación Física.

CONHECIMENTOS DE NUTRIÇÃO E HÁBITOS ALIMENTARES DE PROFESSORES EM ACADEMIAS DE GINÁSTICA DE PELOTAS, RS.

Resumo

O presente artigo teve por objetivo investigar os conhecimentos de nutrição e hábitos alimentares de professores de Educação Física em academias de ginástica localizadas na zona central da cidade de Pelotas, Rio Grande do Sul, Brasil. A amostra constituiu-se de 48 professores, sendo 21 do sexo feminino e 27 do sexo masculino, com idades entre 21 a 50 anos. Foram coletados dados gerais e relativos aos conhecimentos de nutrição a partir de um questionário fechado. Para avaliação do consumo alimentar foi utilizado o registro alimentar diário de refeições durante 3 dias alternados. A análise da adequação dietética foi feita utilizando-se software Dietwin (versão 2003). Os resultados mostraram que os profissionais desconhecem a forma correta de distribuição dos macronutrientes e dos cuidados na ingestão de suplementos nutricionais. De maneira geral, a alimentação dos professores do sexo feminino apresentou-se hipocalórica, hiperprotéica e hipolipídica e quanto aos professores do sexo masculino foi verificado uso de dietas hiperprotéicas e maior ingestão de suplementos nutricionais. Constatou-se ainda a existência de conceitos equivocados com relação à descrição de uma dieta alimentar balanceada e uso de suplementos sem orientação nutricional.
Palavras-chave: conhecimentos de nutrição, hábitos alimentares, professores, Educação Física.