3 - THE USE OF SUPPLEMENTS WHEY PROTEIN BCAA IN ADULTS AND PRACTITIONERS OF STRENGTH IN AN ACADEMY OF BELÉM - PA

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INTRODUCTION

With a busy life routine and stressful to maintain an adequate food can be a challenge. When we insert this routine the practice of regular physical exercise, we observed many times that the energy intake and macro-and micronutrients is not reached. This phenomenon results in an increased wear of the body, which can evolve, even to pathological processes (LANCHA JUNIOR, 2009).

The athlete's diet differs from other individuals on the basis of relatively high energy expenditure and the need for nutrients varies with the type of physical activity, the training phase and time of ingestion (TIRAPEGUI, 2009).

In general, athletes require a higher carbohydrate intake that individuals are not athletes because carbohydrates make up muscle glycogen - the main energy substrate used during exercise. Because the liver and muscle stores of glycogen are limited, this replacement should be done consistently, even during physical activity to ensure a good performance of the athlete. Protein intake can vary depending on the type of activity, but should keep the maximum proportion of 15% compared to the total caloric content of the diet to ensure your property plasma. The amount of lipid decreases with the increase of carbohydrates, but it should be noted that these behaviors are widespread, given that each sport requires different needs and every moment of the day the athlete will require a certain nutrient predominant (TIRAPEGUI, 2009).

In order to minimize the consequences of prolonged exercise and improve nutrient replenishment after exercise have been developed consisting of carbohydrates, fats and amino acids in proportions suitable for physically active (LANCHA JUNIOR, 2009). In accordance with Ordinance No. 222, published by the Ministry of Health in 1998, products such as albumin, amino acids, calorie, carbohydrate drinks and products of carbohydrates are considered food for physically active, a category of products with purpose and specific audiences - a subset of so-called special purpose foods.

Nutritional supplements are aids in improving the performance of those who want to gain muscle mass more advantageous, without the use of steroids or anabolic steroids or who are intending to compete. These should be used in conjunction with a balanced diet and physical activity (NABHOLZ, 2007).

METHODOLOGY

This was a cross-sectional study was to adult bodybuilders universe in an academy in Belém-Pará, and these men and women, aged between 18 and 59 years. Data collection was developed based on the information gathered during April and May 2011. The survey was conducted in a particular academy Bethlehem in adult bodybuilders who use supplements of whey and BCAA. Initially the study was explained to the opposite direction of the academy and the coordinator of the department of exercise through a previous meeting. Then the approach was made by researchers to students in the weight room, along with the nutritionist and physical trainer advisees responsible for the time at which the approach was made to facilitate access to the student. We applied a questionnaire with closed questions to identify the type of supplement used to achieve a particular goal and to identify which source they sought the guidance to use them. In contact with the participants, was established not mandatory for participation in the study of the same and the signing of a Term of Informed Consent (TIC) providing effective volunteer participation as the research sample. We obtained a sample size of 20 adult bodybuilders.

RESULTS

This study showed that more men than women use the supplement. Of the 20 subjects who completed the questionnaire, 95% were male and only 5% were females (Figure 1).

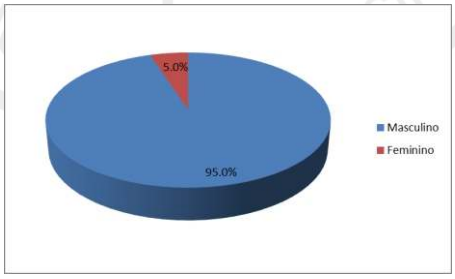

Figure 1 - Users of supplements by sex – 2011

The predominance of males among supplement users was also documented by Araújo and Soares (1999) research academies held in Bethlehem, indicating prevalence of the male group (42%) were females (23%). The finding that men use more supplements than women is consistent with other studies showing that males are the biggest consumers of supplements (results vary from 69% to 83.3%). According Ronsen (1999) men tend to use supplements more regularly and women, more casual. However, this aspect was not investigated in this work.

In Figure 2, one can observe the concentration of the subjects aged 22 to 27 years, representing 40% of the questionnaires. The she followed to age more than 27 years with 35% and age 18 to 21 years with 25% of the total.

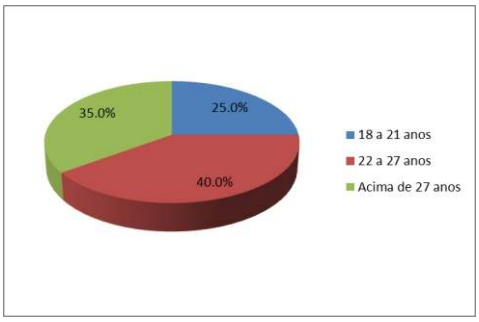

Figure 2 - User supplement by age – 2011

The fact that adults in this age group using these supplements may be related to lack of time to adequate food, combined with impatience to achieve the expected results and the desire to look your best, because the influence of society by the "body healed" making them more concerned with aesthetics. Approximate the data found here were presented by Lollo and Tavares (2004), who found a greater concentration of supplement users aged between 17 and 34 years. Already in study conducted by Pereira and Rocha (1998), in a study of attendees at fitness centers in Campinas found that much of this population consists of individuals under the age of thirty years.

As Chart 3, 60% of individuals have completed higher education, 35% said they were studying higher education and 5% had grade 2 complete.

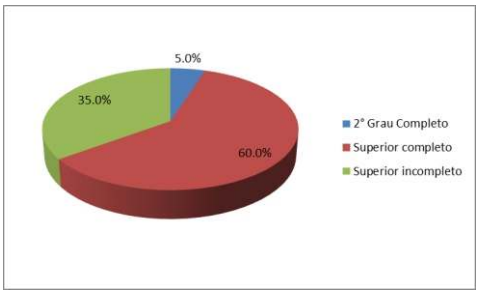

Figure 3 - User supplement by level of education – 2011

Pereira, Hirschbruch and Lajolo (2003) also observed this fact in their study of patrons of academies of St. Paul who used supplements, where 69.9% had tertiary education and is therefore in accordance with the findings of this research.

Was observed in this study that 80% of individuals who use supplements, weight training for over three years, as shown in Figure 4.

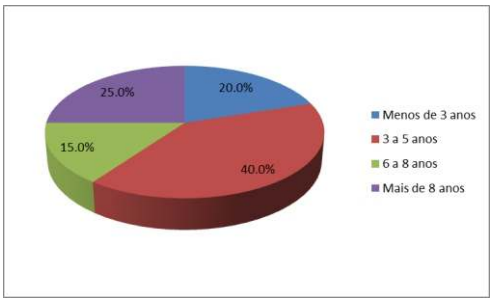

Figure 4 - Range time practicing bodybuilding – 2011

Hirschbruch, Fisberg, Mochizuki (2007) also concluded that, among users of supplements, most exercise regularly for over a year, this indicates that, with prolonged practice, we tend to look for supplements to enhance the results of exercise . Another Brazilian study frequenting gyms also found that most users of supplements practice exercises for over a year (HIRSCHBRUCH; CARVALHO, 2002).

The frequency and time in the gym exercise affect the use of supplements, because the individual is more exposed to the consumer, as shown in Figure 5 on the duration of exercise. It can be observed that 80% practice bodybuilding lasting 1 hour to 1 hour and 30 minutes.

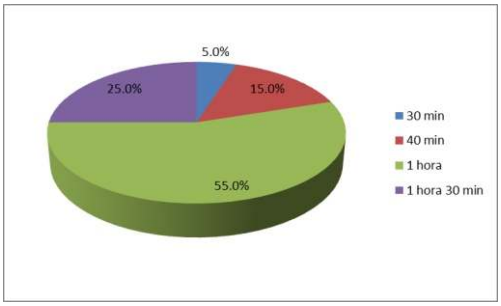

Figure 5 - Duration of the year – 2011

According to Table 6 showed that 95% use whey protein supplement.

Table 6 - It makes use of Whey Protein Supplement

It makes use of the supplement	amount	percentage
Yes	19	95.0%
No	1	5.0%
Total	**20**	**100.0%**

Source: Data Collection, 2011.

Through analysis of the figure 7, about the time that makes the use of whey protein, can be seen that the majority (95%) use after training.

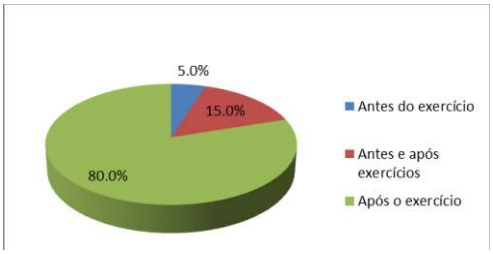

Figure 7 - When you use Whey Protein Supplement – 2011

Studies show that there is a decrease in intracellular concentration of amino acids and muscle after exercise. Therefore, the intake of protein or amino acids immediately after exercise, can promote protein synthesis in muscles, thus, the whey protein has to be a good strategy in the recovery effort for its rapid absorption and good digestibility (MAUGHAN, BURKE , 2004a; MAUGHAN, BURKE, 2004b; CARVALHO et al., 2003, PACHECO et al., 2006).

Through the analysis of Table 8, about the purpose of using whey protein supplement, can be seen that 50% of users used for the purposes of hypertrophy, and, according to studies that prove this is its main function.

Table 8 - Purpose of Use Whey protein supplement

It makes use of the supplement	amount	percentage
Compensate for deficiencies in the diet	4	20.0%
Compensate for deficiencies in the supply and improve performance	1	5.0%
Hypertrophy	8	40.0%
Hypertrophy and compensate for deficiencies in the diet	2	10.0%
Improve performance	5	25.0%
Total	**20**	**100.0%**

Source: Data Collection, 2011.

In addition, Ha and Zemel (2003) point out that the amino acid profile of whey protein is very similar to the proteins in skeletal muscle, providing almost all amino acids in similar proportion to the same, classifying them as an effective anabolic supplement. In another study, Burke et al. (2001) observed also a significant gain in muscle mass in young adults supplemented with whey proteins and subjected to an exercise program with weights, compared to an unsupplemented group, proving the theory of the effect of whey proteins on the gain muscle mass.

Figure 9 illustrates that only 35% make use of BCAA supplementation.

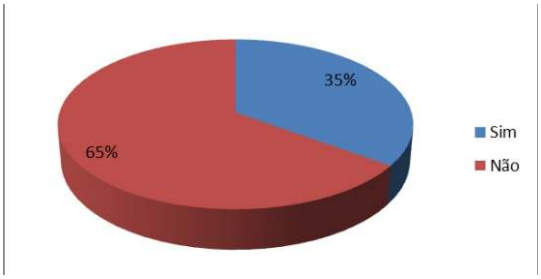

Figure 9 - Makes use of BCAA supplementation – 2011

Figure 10 shows that 57.1% of users make use of BCAA before and after exercise. Followed by 28.5% only after exercise and 14.3% before exercise.

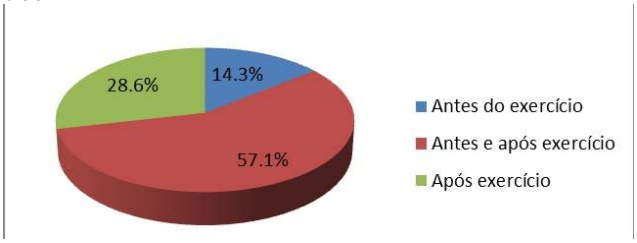

Figure 10 - Makes use of BCAA supplementation – 2011

Studies show that the best time to use the same is immediately after the sports activity, or before going to bed may help in the recovery of damaged muscles and prevent symptoms such as pain caused by muscle injuries. But the inclusion of branched chain amino acids is indicated only in advanced training with weights, where the wear is extreme. Therefore, the intake of these drinks is recommended for athletes who have a very intense workout routine and does not allow full recovery of glycogen, which depletes reserves in high-intensity muscle and liver (Sgarbieri, 2006).

Table 11 shows that 57.1% of bodybuilders consume bcaa aiming hypertrophy, 28.6% use it to improve performance and 14.3% in order to reduce the percentage of body fat.

Table 11 - Purpose for which makes use of BCAA supplementation

It makes use of the supplement	amount	percentage
Lower % fat	1	14.3%
Hypertrophy	4	57.1%
Improve performance	2	28.6%
Total	**7**	**100.0%**

Source: Data Collection, 2011.

According to Roger and Tirapegui (2007) the intake of a mixture of amino acids such as chain branching or a hydrolyzed protein after a bout of strength exercise can stimulate the rate of protein synthesis in human muscle and promote muscle protein balance positive. Different theories explaining such an effect, one is that the increased availability of amino acids promotes the increase of the same transport into the muscle cell, stimulating the production of protein, resulting in increased muscle mass, ie hypertrophy. Thus it is suggested intake of the supplement after exercise for at this moment is the recovery and hypertrophy of muscle fibers. However, there are few studies confirming this hypothesis.

CONCLUSION

A nutritionally adequate diet is important, with adequate energy and nutrient needs of each individual. The results obtained in field research, it is possible to draw some conclusions: The sample was predominantly as males, it was shown that adults aged between 22 and 27 years of both sexes are the ones who use nutritional supplements and in relation to schooling in their majority were university graduates, was observed in this study that 80% of individuals who use supplements, weight training for over three years, the longest stay in the gym was observed 1 hours and 30 minutes per day for the use of supplements, 95% use whey protein and 35% BCAA; in the timing of the use of whey protein, can be seen that 95% consume after training, for users BCAA, 57.1% drink before and after exercise, an indication of the whey protein and BCAA supplements are aimed at muscle hypertrophy. The adults surveyed who use these supplements, responded that the main purpose of use is increased muscle mass, with a total of 50% and 57.1% respectively.

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THE USE OF SUPPLEMENTS WHEY PROTEIN BCAA IN ADULTS AND PRACTITIONERS OF STRENGTH IN AN ACADEMY OF BELÉM – PA.

ABSTRACT

Concern about the quality of life emphasized the importance of nutrition for exercise, changing eating habits and life in people of all ages. The use of nutritional supplements protein is widespread among bodybuilders in gyms in order to achieve immediate results, especially muscle hypertrophy. However, its use is not well quantified, and there is little information in scientific literature. Consequently, the indiscriminate use has gradually increased without adequate knowledge of the benefits and harms that such supplements can cause human health. Objectives: To assess the consumption of supplements whey and BCAA protein by adults aged 18 to 59 years who practice bodybuilding and correlate the alert with the aim of verifying the use and display them. Methods: We performed a cross-sectional survey, data were collected from 20 individuals of both sexes who do weight training at a gym in Bethlehem, in the period from April to May 2011. The analysis of data collected was done from the software Microsoft Excel 2010 through. Results: We found that 95% of 20 respondents were male, 60% with college degrees, 60% use whey protein with the goal of hypertrophy associated with improved performance and compensate for deficiencies in power, and its main objective is hypertrophy. Since BCAA 57.1% said use with the goal of hypertrophy, but there are no studies that prove this fact. Conclusion: Considering the results and analyzed studies on the subject, we can say that the population research has mainly aimed at muscle hypertrophy, but not sure about the need for such supplementation, making ingestion under the influence of professionals trained not to indicate the same.

KEY - WORDS: Supplements, whey protein, BCAA.

L'UTILISATION DE SUPPLÉMENTS PROTÉINES DE LACTOSÉRUM ET LES ADULTES DANS LES CULTURISTES BCAA DANS LE GYMNASE DE BELÉM-PARÁ

SOMMAIRE

Préoccupé par la qualité de la vie a souligné l'importance de la nutrition pour l'exercice, changement des habitudes alimentaires et de vie des personnes de tous âges. L'utilisation de compléments nutritionnels en protéines est très répandue chez les culturistes dans les gymnases afin de parvenir à des résultats immédiats, en particulier l'hypertrophie musculaire. Cependant, son utilisation n'est pas bien quantifiés, et il ya peu d'informations dans la littérature scientifique. Par conséquent, l'utilisation sans discernement a progressivement augmenté sans une connaissance adéquate des avantages et des préjudices que peuvent causer les suppléments tels la santé humaine. Objectifs: Déterminer la consommation de protéines de lactosérum et de suppléments de BCAA par des adultes âgés de 18 à 59 ans qui pratiquent le culturisme et de corréler la déclaration dans le but de vérifier l'utilisation et de les afficher. Méthodes: Nous avons mené une étude transversale auprès de 20 personnes des deux sexes qui ne la formation de poids dans un gymnase à Bethléem, dans la période d'avril à mai 2011. L'analyse a été effectuée sur les données recueillies à partir d'Excel 2010 grâce à des logiciels Microsoft tableaux et graphiques. Résultats: Nous avons constaté que 95% des 20 répondants étaient des hommes, 60% avec un diplôme collégial, 60% de protéines de lactosérum utilisé avec l'objectif de l'hypertrophie associée à des performances améliorées et de compenser les carences dans l'alimentation, et son objectif principal est l'hypertrophie. Ceux qui consomment BCAA, le rapport de 57,1% à l'aide afin d'hypertrophie, mais cette hypothèse n'a pas été confirmée par la littérature. Conclusion: Compte tenu des résultats analysés et études sur le sujet, nous pouvons dire que le principal objectif du recensement de la population est l'hypertrophie musculaire, mais ne savez pas sur la nécessité d'une supplémentation par exemple, rendent l'ingestion influencée par des professionnels non formés pour indiquer la même chose.

MOTS-CLÉS: Supplément, Whey protein, BCAA.

USO DE SUPLEMENTOS DE LA PROTEÍNA DEL SUERO Y ADULTOS EN BCAA CULTURISTAS EN EL GIMNASIO DE BELÉM-PARÁ

RESUMEN

La preocupación por la calidad de vida hizo hincapié en la importancia de la nutrición para el ejercicio, cambiar los hábitos alimenticios y la vida en las personas de todas las edades. El uso de suplementos nutricionales de proteína está muy extendida entre los culturistas en los gimnasios con el fin de lograr resultados inmediatos, sobre todo la hipertrofia muscular. Sin embargo, su uso no está bien cuantificado, y hay poca información en la literatura científica. Por lo tanto, el uso indiscriminado ha aumentado gradualmente, sin un conocimiento adecuado de los beneficios y perjuicios que dichos suplementos pueden causar la salud humana. Objetivos: Determinar el consumo de proteína de suero de leche y los suplementos de BCAA por los adultos de 18 a 59 años que la práctica del culturismo y correlacionar la declaración con el fin de verificar el uso y los muestra. Métodos: Se realizó un estudio transversal con 20 individuos de ambos sexos que hacen entrenamiento con pesas en un gimnasio en Belén, en el período de abril a mayo de 2011. El análisis se realizó sobre datos obtenidos de los programas de Microsoft Excel 2010 a través de tablas y gráficos. Resultados: Se encontró que el 95% de los 20 encuestados eran hombres, 60% con títulos universitarios, el 60% de proteína de suero uso con el objetivo de hipertrofia asociada con un mejor rendimiento y compensar las deficiencias en la dieta, y su principal objetivo es la hipertrofia. Los que consumen BCAA, el informe de 57,1% con el fin de la hipertrofia, pero esta hipótesis no ha sido confirmado por la literatura. Conclusión: Teniendo en cuenta los resultados de análisis y estudios sobre el tema, podemos decir que el principal objetivo de la encuesta de población es la hipertrofia del músculo, pero no está seguro acerca de la necesidad de suplementos tales, que su ingestión es influenciado por los profesionales no están capacitados para indicar el mismo.

PALABRAS CLAVE: Suplemento; Whey protein, BCAA.

O USO DOS SUPLEMENTOS WHEY PROTEIN E BCAA EM ADULTOS PRATICANTES DE MUSCULAÇÃO EM UMA ACADEMIA DE BELÉM PARÁ

RESUMO

A preocupação com a qualidade de vida destacou a importância da nutrição para o exercício, modificando hábitos alimentares e de vida em pessoas de todas as idades. O uso de suplementos nutricionais protéicos é bastante disseminado entre os praticantes de musculação em academias visando atingir resultados imediatos, principalmente hipertrofia muscular. Entretanto, o seu uso não é bem quantificado, e há pouca informação na literatura científica. Por conseguinte, o uso indiscriminado vem aumentado gradativamente sem o conhecimento adequado dos benefícios e malefícios que tais suplementos podem acarretar a saúde humana. Objetivos: Verificar o consumo dos suplementos whey protein e BCAA por adultos na faixa etária de 18 a 59 anos que praticam musculação e correlacionar a indicação com o objetivo do uso e verificar a indicação dos mesmos. Metodologia: Foi realizada uma pesquisa do tipo transversal, com 20 indivíduos de ambos os sexos que praticam musculação em uma academia de Belém, no período de abril a maio de 2011. A análise dos dados coletados foi realizada a partir do Software Microsoft Excel 2010, através de tabelas e gráficos. Resultados: Observou-se que dos 20 entrevistados 95% eram do sexo masculino, 60% com nível superior completo, 60% utilizam o whey protein com o objetivo de hipertrofia associado à melhora do desempenho e compensar deficiências da alimentação, sendo que seu principal objetivo é de hipertrofia. Os que consomem o BCAA, 57.1% afirmam utilizar com o objetivo de hipertrofia, porém essa hipótese ainda não foi confirmada pela literatura. Conclusão: Diante dos resultados e estudos analisados sobre o tema, é possível afirmar que a população em pesquisa tem como objetivo principal a hipertrofia muscular, porém não sabem ao certo quanto a necessidade de tal suplementação, fazendo ingestão por influência de profissionais não capacitados para indicação do mesmo.

PALAVRAS – CHAVE: Suplemento, whey protein, BCAA.