179 - STANDARD FOOD IN YOUNG ATHLETES OF KARATE

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INTRODUCTION

According to the Brazilian Confederation of Karate (CBK), the Karate is a martial art that had its origins in Japan and gained followers all over the world, in 1970 was created the World Union of Karate Organizations (WUKO), and from 1993 was absorbed by World Karate Federation (WKF) as an adaptation of the rules from the International Olympic Committee. Whit the global recognition of karate as a sport many championships were competed in the world, increasing the interest and number of professional and amateur athletes.

The karate is a sport that requires strength and power, anaerobic endurance, speed and concentration (HERNANDES JUNIOR, 2002, p-302), causing physical tiredness, which combined with a poor diet can increase possible damage not only in the performance, but also their health. Thus, it is important to have a balanced diet, adjusted to the needs of the carbohydrates, proteins and lipids, to minimize the wear offered by training, avoiding possible damage.

According to McArdle, Katch and Katch (2001), the nutrition of sports is a science that studies the nutrients and its effects in the performance of athletes and who practices physical activities, and it is used by athletes and coaches to optimize the performance. The American College of Sports and Medicine (ACSM, 2005), the American Dietetic Association (ADA, 2005) and Dietitians of Canada (DC, 2005), they say the physical activity, performance in sports and recovery are improved with a good nutrition. So food must be selected carefully, taking into account the intake of adequate amounts of nutrients. The macronutrients are represented by carbohydrates, proteins and lipids, providing the energy needed to maintain body functions during rest and physical activity, preserving the structural and functional integrity of the body (McArdle, Katch, Katch, 2001, p-05, 40).

Some recommendations have already been set by researchers. The Brazilian Society for Sports Medicine (2003) recommends that the 60% to 70% of the diet must include carbohydrates. The ACSM, ADA and DC (2005) recommended intake of 6 to 10g by kilo body per day, and that amount must be prescribed considering age, sex, daily calorie expenditure, type of sport and environmental conditions. The ACSM, ADA and DC (2005) also refer the amount of protein intake daily, indicating that 1.2 to 1.4 g / kg / day for endurance athletes, and 1.6 to 1.7 g / kg / day for athletes of resistance and strength / power. The intake of fat is also important, because it is a macronutrient that has several functions, among them to generate energy, produce hormones, absorption of fat-soluble vitamins, etc. According to the ACSM, ADA and DC (2005), a diet with less than 15% of fat intake doesn't bring any benefit to the performance, it is recommended 20 to 25%. Even if these recommendations have already been established, numerous studies show that there is a deficiency in nutritional levels of various athletic groups (Panzer et all, 2007).

Thus, the aim of this study was to analyze the macronutrients food pattern in young athletes of karate.

METHODS

Were assessed a food survey of 14 juveniles' karate athletes, 11 male and 3 females with an average age of 17.49 0.87, with more than 3 years of training, specializing in the fight (kumite), with state level. Each athlete described their food recall for 3 days, 2 days of the week and 1 day on the weekend: Sunday, Monday and Tuesday or Thursday, Friday and Saturday. The record was made just after the meal, including the time, quantities (measures) and how the food was prepared (boiled, roasted, fried), so everything would be considered. With the results obtained through investigation, was made an average of the amount of nutrients consumed by athletes during the three days.

Through the program Avanutri 3.0, were observed the quantities of carbohydrates, lipids and proteins ingested by the athletes and we observe if they are eating properly, considering that they are athletes and are physically active. To measure the body mass was used the balance TANITA and for the stature, the stadiometer trade marker WCS

To the statistical treatment was used the descriptive analysis , with a mean and standard deviation for the variables of the macronutrients.

RESULTS AND DISCUSSION

All athletes belonged to the youth category, with an average of age of 17,58 ? 0,64 for females and 17,46 ? 0,95 for males. Table 1 shows that the body mass, the stature and BMI of male athletes have higher values when compared to females.

When examining the body mass index (BMI), it appears that both male and female are within the normal range (ACSM 2006; SATO et al, 2002).

TABLE 1- DESCRIPTION OF THE SAMPLE

Sex	*Age (years)*	*Heigth (cm)*	*Body Mass (kg)*	*BMI (kg/mÿ)*
Female	17,58 0,64	162 0,12	56,66 8,08	21,53 0,75
Male	17,46 0,95	172 0,04	70,18 6,94	23,52 1,91

Table 2 provides information on the consumption of macronutrients (carbohydrate, protein and lipid) of female and male. The female consumption of carbohydrates is 260.81 grams, equivalent to 4.6 g / kg / day and for males is 315.55 g, which equals 4.49 g / kg / day. Both sexes are lower than recommended by the ACSM, ADA and DC (2005), which recommends 6 of the 10g/kg/dia. Low amounts of carbohydrates in the diet can result in loss of muscle mass, menstrual dysfunction, loss of bone density, fatigue and illness (ACSM, ADA, DC, 2005).

The protein consumption of both sexes is also lower than recommended, 67.08 g or 1.18 g / kg / day for females and 95.3 g or 1.35 g / kg / day for males, knowing that the ideal is the consumption of 1.6 g to 1.7 g / kg / day of protein (ACSM, ADA, DC, 2005). However a study by Rossi et al (1999), showed that males athletes from Brazilian's level Karate have a higher protein consumption that recommendation, ingesting an average of 3.59 g / kg / day, and the females athletes worldwide level eat about 1.63 g / kg / day, considered the ideal for the sport. The increase of muscle mass and strength are crucial to the performance in most exercises of power (FRANCO et al, 2007). Low protein in the skeletal muscle could be related with the small cross-sectional area of muscle fiber and / or a smaller amount of muscle fibers (Rogatto and Luciano, 2001). Karate is considered a sport of speed and anaerobic power (BASSANO, 2007), low protein intake could reduce the sports yield of these athletes.

According to the ACSM, ADA and DC (2005), the consumption of fat for both sexes is high, consuming 55.27 grams

and 83.1 grams for the female and male respectively, equivalent to 27.49% and 31.27% of the total daily calories ingested, knowing the recommended is 20 to 25%. The Brazilian Society of Sports Medicine's (2003), recommends 30%, dividing this value in 10% from saturated, 10% polyunsaturated and 10% monounsaturated.

TABELA 2 Ingestion description of macronutrients in grams.

Sexo	*CHO*		*PT*		*LIP*	
Feminino	260,81	29,37	67,08	13,58	55,27	14,23
Masculino	315,55	119,76	95,3	27,40	83,1	35,70

CHART 1 Individual description of intake of macronutrients in grams for male.

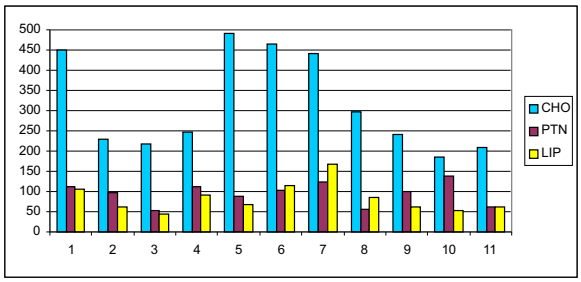

CHART 2 Individual description of intake of macronutrients in grams for female.

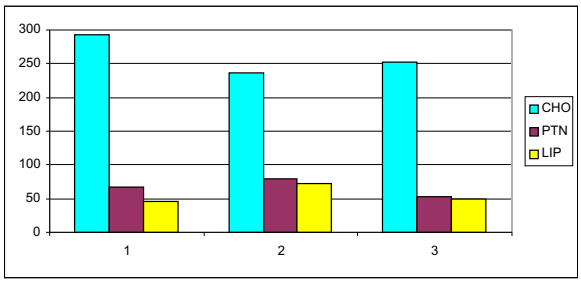

TABLE 3 -Intake description of macronutrients in grams as the day of the week for males.

Male	*CHO*		*PT*		*LIP*	
Week day 1	287,93	102,46	89,65	39,02	75,96	35,83
Week day 2	381,04	170,31	118,21	47,87	92,73	34,75
Weekend	277,68	166,26	78,04	47,01	80,63	63,79

TABLE 4 - Intake description of macronutrients in grams as the day of the week for females.

Female	*CHO*		*PT*		*LIP*	
Week day 1	192,72	76,45	64	7,41	41,49	2,66
Week day 2	281,14	98,28	62, 63	27,95	48,68	15,63
Weekend	308,59	46,03	74,6	45,84	75,65	26,42

FINAL

With the results obtained in the search, we conclude that the athletes ingest inadequate energy amounts in accordance with the recommendations indicated for the sport, this diet could bring damage to the sporting performance.

The consumption of carbohydrates and protein was lower than recommended for the sport. The consumption of fat, was considered over the recommended, but we did not find consistent scientific data showing the results of a high intake of fat in athletes in sports predominantly anaerobic.

The data obtained in the survey suggest that there is a need for intervention and monitoring of a professional of sports nutrition to balance the consumption mainly proceeding from carbohydrates and protein, aiding in performance.

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STANDARD FOOD IN YOUNG ATHLETES OF KARATE

The aim of this study was to assess the dietary patterns, with regard to the macronutrients, of young athletes from karate. The sample consisted of 14 athletes, 11 male and 3 females, aged 17.46 0,95 and 17.58 ± 0.64 respectively. The BMI was 23,52 1.91 for male and 21, 53 0.74 for female. Used food recall for 3 days, 2 days on the week (useful) and 1 on the weekend, which was recorded the time of the meal, method of preparation and quantity of the food. To examine the intake of carbohydrate (CHO), protein (PTN) and lipids (LIP) the program used was Avanutri 3.0. The results show the the average consumption of CHO was 4.49 g / kg / day for males and 4.6 g / kg / day for females, which is inappropriate in accordance with the recommendation for the sport. The average consumption of PTN was 1.35 g / kg / day for males and 1.18 g / kg / day for females, which is also inappropriate for the recommendation of the sport. Already the average consumption of fat was 27.49% for females and 31.27% for males, which is a little bit over the recommended for the athletes. We conclude that the intervention of the professional sports nutrition is essential to have balance between energy intake and expenditure.

Keywords: sports nutrition. Karate. Athletes.

NORME ALIMENTAIRE CHEZ LES JEUNES ATHLETES DU KARATE

Cette étude vise à évaluer les habitudes alimentaires, en ce qui concerne les macronutriments, de jeunes athlètes de karaté au niveau état. L'échantillon était constitué de 14 athlètes, 11 hommes e 3 femmes, âgées de 17,46 ? 0,95 e 17,58 ? 0,64 e IMC de 23,52 ? 1,91 e 21,53 ? 0,75 respectivement. Nous avons utilisé un recordataire alimentairede de 3 jours, en étant 2 jours de la semaine (utile) et 1 de weekend, où ce a été enregistré l'horaire du repas, la manière de préparation et quantité de nourriture. Pour analyser l'ingestion de glucides (CHO), des protéines (PTN) et des lipides (LIP) a été utilisé le programme Avanutri 3.0. Les résultats montrent que la consommation moyenne d'hydrates de carbone a été de 4,49 g / kg / jour pour les hommes et de 4,6 g / kg / jour pour les femmes, ce qui n'est pas en conformité avec la recommandation pour la modalité. La consommation moyenne de protéines a été de 1,35 g / kg / jour pour les hommes et 1,18 g / kg / jour pour les femmes, ce qu'est aussi inapproprié conforme la recommendation pour la modalité. La consommation moyenne de matières grasses a été de 27,49% pour les femmes et 31,27% pour les hommes, ce qui montre un peu au-dessus du recommandé pour des athlètes. Nous concluons que l'intervention de professionnels de la nutrition sportive, est essentiel pour disposer d'équilibre entre l'ingestion et les dépenses calorique.

Mots-clés: nutrition sportive. Karaté. Athlètes.

PADRÓN DE LA ALIMENTACIÓN EN LOS JÓVENES ATLETAS DE KARATE

En este estudio tiene como objetivo evaluar los hábitos alimentarios en lo que respecta a los macronutrientes, de los jóvenes atletas de karate a nivel de la Providencia. La muestra consistió de 14 atletas, 11 hombres y 3 mujeres con edades entre 17,46 ± 0,95 y 17,58 ± 0,64 y el IMC 23,52 ± 1,91 y 21,53 ± 0,75, respectivamente. Se utilizó recordatário de la ingesta de 3 días. Seindo 2 días de la semana (útiles) y 1 de festivo, donde se escribió la hora de la comida su preparo y su cantidad. Para examinar la ingesta de hidratos de carbono (CHO), proteínas (PTN) y lípidos (LIP) se utilizó el programa Avanutri 3.0. Los resultados muestran que el promedio de consumo de CHO fue 4,49 g / kg / día para los hombres y 4,6 g / kg / día para las mujeres, que no es apropiado en conformidad con la recomendación para el deporte. El promedio de consumo de PTN fue 1,35 g / kg / día para los hombres y de 1,18 g / kg / día para las mujeres, lo que también es inadecuado como la recomendación para el deporte. Ya la media de consumo de grasa fue 27,49% para las mujeres y 31,27% para los hombres lo que demuestra un poco por encima de la recomendada para los atletas. Llegamos a la conclusión de que la intervención de los profesionales de la nutrición deportiva es esencial para tener equilibrio entre la ingesta y los gastos de energía.

Palabras clave: Nutrición Deportiva. Karate. Los atletas.

PADRÃO ALIMENTAR EM JOVENS ATLETAS DE KARATE

O presente estudo tem por objetivo avaliar o padrão alimentar, com relação aos macronutrientes, de jovens atletas de karate de nível estadual. A amostra foi composta de 14 atletas, sendo 11 do sexo masculino e 3 do sexo feminino, com idade de 17,46 ? 0,95 e 17,58 ? 0,64 e IMC de 23,52 ? 1,91 e 21,53 ? 0,75 respectivamente. Foi utilizado recordatário alimentar de 3 dias, sendo 2 dias da semana (úteis) e 1 dia do final de semana, onde foi registrado o horário da refeição, modo de preparo e quantidade do alimento. Para análise da ingesta de carboidrato (CHO), proteínas (PTN) e lipídios (LIP) foi utilizado o programa Avanutri 3.0. Os resultados mostram que a média do consumo de CHO foi de 4,49g/kg/dia para o sexo masculino e 4,6g/kg/dia para o sexo feminino, o que é inadequado de acordo com a recomendação para a modalidade. A média do consumo de PTN foi de 1,35g/kg/dia para o sexo masculino e 1,18g/kg/dia para o sexo feminino, o que também é inadequado conforme a recomendação para a modalidade. Já o consumo médio de lipídios foi de 27,49% para o sexo feminino e 31,27% para o sexo masculino, o que se mostra um pouco acima do recomendado para atletas. Concluímos que a intervenção do profissional de nutrição esportiva faz-se imprescindível para que haja equilíbrio entre ingesta e gasto calórico.

Palavras-chave: Nutrição esportiva. Karate. Atletas.