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PRELIMINARY STUDY OF THE ANTIOXIDANT CAPACITY IN ONE ENERGETIC DRINK

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INTRODUCTION

An increment of free radicals appears during exercise; these can to connect with other chemical compounds producing tissular damage. The carbonyls groups of protein generated in plasma can evaluate antioxidant status.

OBJETIVE

The measurement of oxidative stress variation during severe exercise when an energetic drinks is consumed.

MATERIAL AND METHODS

A sample of 8 juniors and amateurs cyclists in national or regional competition.

Every man was subject to a maximal triangular test to know the maximal oxygen uptake (VO2 max). Afterwards two submaximal rectangular tests (70% VO2 max) during 90 minutes were performed. During rectangular test, the cyclist consumes 200 mL of energetic or placebo drink every 15 minutes. The level of carbonyls groups was detected in plasma by spectrophotometric before and after the stress test was realised.

The results were statically analysed by T-Student test.

RESULTS

The level of carbonyls groups detected in plasma did not show statistical differences when they ingest the energetic or placebo drinks, before the rectangular test was performed.

• We did not found statistical differences in carbonyls groups before and after the rectangular test was performed (with energetic or placebo drinks).

• We observed final low concentration of carbonyls groups in plasma after rectangular test when the energetic drink have been consumed ($p<0.05$).

IS IT NECESSARY TO PRACTISE AN EARLY NUTRITIONAL INTERVENTION IN SOCCER PLAYERS?

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PURPOSE

By means of this study it has been tried to know, in a world so riddled with myths as it is nutrition in soccer, if in a children soccer team, nutritional status was suitable for the practice of this sport, as well as for its correct physical/ phychological development, in order to assess the need of application of a nutritional intervention.

SUBJECTS AND METHODS

31 children soccer players (mean age 12,9 years, range 12-14) were recruited from Real Avilés Industrial. The technique used for the assessement of the diet was the double weighed food method for 6 days. Body composition was evaluated using standard material and techniques. After 12 h of fasting, they were extracted blood from the antecubical vein to value biochemical and haematological parameters.

RESULTS

In the studied players, the contribution of macronutrients to energy intake was 16.8, 44.2, and 39.0% for Proteins, Carbohydrates, and Lipids respectively, so that none of the players fulfilled the nutritional standard recomendations. Micronutrient intake was inside the normality. The anthropometrical data, compared with those of the tables of F. Orbegozo, indicated that the development of the children was suitable. The biochemical and haematological information asjusted well enough to the standard parameters for these ages, though it would be necessary to emphasize that the ferritin, haemoglobin and hematocrit levels were lightly lower than the recommended ones, nevertheless HDL-cholesterol is lightly top.

CONCLUSION

Our results suggest that the practice of soccer does not suppose any harmful alteration in the development of these children to these ages. Nevertheless, provided that they do not expire with the nutritional recommendations it would be very advisable to practise a nutritional intervention. We justify this

intervention on the basis of the results obtained in this assessment in order to look for a change in the food habits of this population, to obtain a suitable, balanced and healthy diet, and to adapt it from this base according to the energetic expense, needs of the athletes and sports requirements.

NUTRITIONAL ASSESSMENT AND BODY COMPOSITION IN A YOUNG ELITE SOCCER PLAYERS GROUP BASED ON THEIR POSITIONAL ROLES IN THE TEAM

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PURPOSE

The increasing scientific study about soccer during the last few decades, has led to a more accurate knowledge of its physiological characteristics. It is known that the physiological demands in soccer depend on player´s positional role in the team. Taking this into account, we wondered if these different requirements are important enough to imply differences between positions in energy and macronutrient intake, and if there are any possitional differences in body composition, and biochemical and haematological parameters.

SUBJECTS AND METHODS

Sixty-three male soccer players (age 17.83+1.77, and range 16-22 years) recruited from Real Oviedo SAD, were divided in five position categories: goalkeepers (N=5), full-backs (N=9), centre-backs (N=13), midfielders (N=17), and forwards (N=9). The dietary assessment technique used was a 6-day weighed food record (self-recorded). Body composition was assessed using standardized material and techniques. After an overnight fast, blood samples were taken from the antecubital vein to assess biochemical and haematological parameters.

RESULTS

None of the individuals assessed were within the nutritional recommendations for athletes. There were no differences between groups in almost all the parameters assessed, excep in height between goalkeepers and full-backs (183.74+7.29 cm, and 174.65+4.85 cm; P=0,014), and between centre-backs and full-backs (181.11+4.68 cm, and 174.65+4.85 cm; P=0,015), and in carbohydrate intake (expressed as % of energy intake) between goalkeepers and full-backs (39.34 + 4.80% and 46.88+5.06%; P=0,033).

CONCLUSIONS

These data suggest that the different physiological demands in soccer between positions are not so important that meant differences in energy and macronutrient intake, maybe because playing positions are relatively flexible and, in most teams, there are no individualized training programs, except for the goalkeepers. So it seems to be more important that the individuals assessed were within the nutritional recommendations for athletes.

This study was supported by REAL OVIEDO SAD.

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CREATINE SUPPLEMENTATION AND PERFORMANCE DURING A FIELD TEST SIMULATING MATCH PLAY IN ELITE FEMALE SOCCER PLAYERS

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PURPOSE

To investigate the effects of acute creatine (Cr) supplementation on the performance of elite female soccer players undertaking an exercise protocol simulating match play. Methods: on two occasions, 7 d apart, 12 players performed 5 x 11 min exercise testing blocks interspersed with 1 min rest. Each block consisted of 11 all-out 20-m running sprints, two agility runs, and one precision ball-kicking drill, separated by recovery 20-m walks, jogs and runs. After the initial testing session, subjects were assigned to either a CREATINE (5g of Cr, four times per day for 6 d) or a PLACEBO group (same dosage of a glucose polymer) using a double blind research design. Results: body mass (BM) increased (61.7 ± 8.9 to 62.5 ± 8.9 kg ($P < 0.01$)) in the CREATINE group, but no change was observed in the PLACEBO group (63.4 ± 2.9 kg to 63.7 ± 2.5 kg). No overall change in 20- m sprint times and agility run times were observed, although the CREATINE group achieved faster post-supplementation times in sprints 11, 13, 14, 16, 21, 23, 25, 32 and 39 ($P<0.05$), and agility runs 3, 5 and 8 ($p<0.05$). The accuracy of shooting was unaffected in both groups.

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CONCLUSION

Acute Cr supplementation improved performance of some repeated sprint and agility tasks simulating soccer match play, despite an increase in BM.

Keywords: high-energy phosphates, ergogenic aids, repeated sprints, agility, lactate.

PROS AND CONS OF ENERGY DRINK AND SPORT DRINK CONSUMPTION BY ELITE AND RECREATIONAL ATHLETES

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Dozens of drinks labeled as Energy drinks, Sport drinks, Power drinks etc, have "Flooded" the market in Cyprus. All the different species of animals, birds and fish are depicted on their containers.

Young and old, athletes or non-athletes daily consume large quantities of the above drinks whose manufacturers promise: an increase in energy, endurance, concentration ability, fluid replacement, trace element and vitamin replacement, and even that the drink will make them feed « cool ", stronger, sexier...etc.

PURPOSE

The purpose of this study was to form guidelines for athletic associations, coaches, athletes, parents etc., concerning the proper use of Energy and Sport drinks Before, During and After exercise.

MATERIAL AND METHODS

Forty drinks circulating in the Cyprus market have been collected and studied. Twenty five of them were labeled by their manufacturer as Energy drinks and Fifteen of them as Sport drinks.

All the ingredients were individually examined as well as the percentages and dosages in the drink taking into considerations the guidelines set by international literature.

RESULTS AND CONCLUSIONS

All the energy drinks studied, belong to the category of the Hypertonic drinks and their ingredients were quite similar: Carbonated water, glucose, fructose, caffeine, glucorono-lactose, taurine, vitamins mainly from the B complex, ginseng and guarana extracts, trace, elements...etc.

The present study has shown that Energy Drink consumption by elite and recreational athletes is not recommended, especially before and during exercise. Instead it is recommended that our athletes choose to consume Sport drinks since they were found to contain the right mixture and the correct analogy of carbohydrates and electrolytes.

Key words: Osmotic fluid pressure, Sport Drinks, Isotonic Drinks Hypertonic Drinks Hypotonic Drinks.

USE OF SAUNA TO INDUCE A RAPID WEIGHT LOSS IN YOUNG HEALTHY ATHLETES COMPETING IN WEIGHT CLASS EVENTS

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This study investigates, in twelve young, healthy, and physically active men (n=6, aged 21.6 ± 1.8) and women (n=6, aged 24.5 ± 3.7), the consequences on strength and power of a dehydration (sauna) induced rapid weight loss. We also studied if the possible adverse effects could be reversed by adequate rehydration with a carbohydrate containing drink. Subjects had sauna (3x20 min at 70°C, 5 min recovery) followed by a 60 min rehydration period using a carbohydrate drink (6.3% glucose, 9.5mmol/l Na+, 10°C) ingested at the rate of 2.5 ml/kg body mass every 15 min. Tap water intake was allowed only after the last sauna session. Subjects were evaluated before sauna, after sauna and after rehydration. Evaluation consisted of body composition, grab strength, handgrip strength, squat jump, counter movement jump, and elastic capacity. Sauna exposure determined significant reductions in body weight in men (1.8 ± 0.5%) and women (1.4 ± 0.6%). It also led to a decrease in squat jump particularly in men (33.7±6.3 cm pre-sauna vs 32.1±5.4 cm post-sauna, $P<0.05$). Rehydration partially restored body weight in men and women. In men, the decrease in squat jump was also partially reversed (32.5±4.4 cm post-rehydration). In women, the decrease in explosive strength could not be reversed

(25.2±1.4 cm pre-sauna vs 23.7±2.2 cm post-rehydration in squat jump, and 27.2 ± 2.1 cm pre-sauna vs 25.9 ± 2.1 cm post-rehydration in counter movement jump; P<0.05). In conclusion, the effect of sauna induced rapid weight loss on explosive strength cannot be rapidly and fully reverted by a carbohydrate containing drink, particularly in women.

Key Words: weight loss, sauna exposure, rehydration, strength, weight class events, performance.

DIFFERENCES IN DIETARY HABITS KNOWLEDGE BETWEEN SPORT AND HIGH SCHOLL TEENAGERS

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INTRODUCTION

It is a matter of fact that correct dietary habits help athletes to perform at high level intensities and to improve recuperation processes. But little is known if this knowledge arrives adequately to the athletes.

OBJECTIVE

Describe the differences in dietary habits knowledge between a group of teen athletes and a group of high-school teens, but not engaged in high performance sporting activities, according to a questionnaire prepared by the CAR Nutrition Service.

MATERIAL AND METHODS

215 subjects (76 athletes and 139 high-school teens) participated in the study. The athletes were selected by randomization between all the athletes that were controlled in the Service during the three months that the study was conducted. The high-school students were all the students attendant the 3 ESO class of a school near our Center. The questionnaire included 31 questions with closed answers of two options (TRUE/FALSE) about various themes of dietetics, and one more closed question with five possible answers.

RESULTS

The athletes showed a poorer knowledge about the themes asked, as was evident by the lower number of corrected answers in a high number of questions (27.4% v 66.3%). Only in five questions they showed a better understanding that the control group.

It is important also that the principal media of information in dietetics was the coach for the athletes and the dietitian/physician for the scholars.

CONCLUSIONS

It is necessary a better knowledge of the importance and the mechanisms of influence of the diet in sport performance by the athletes. It is also very important that they know where to find the correct information about the themes they were interested, and that the coaches have to be confident with specialists to actualize their information in sports dietetics.

Key words: diet, teenagers, nutrition, education.

EFFECTS OF COMPLEX VITAMIN SUPPLEMENTATITON ON CARDIAC MARKER AND RADICAL SCAVENGING ENZYMES AND LPO LEVELS IN YOUNG SWIMMERS

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The relationship among the enzyme activities of cardiac markers, antioxidant defence system and Lipid peroxidation (LPO) levels related to complex vitamin supplementation and sex difference in swimming exercise has been investigated. Swimmers aged between 11-13 were divided by two separate groups as control and complex vitamin supplemented by taking One a Day for Juniors © Bayer per day during regular preparation season. Swimmers joined monthly swimming program (four times/week) and they swam approximately 2 – 2,5 km. per day. All of the cardiac marker enzymes elevated after one month training program for all groups. Apart from GOT (AST) activity in the female vitamin supplemented group, the activities of all cardiac marker enzymes in control groups were markedly higher than the activities of complex vitamin groups. Packed erythrocyte antioxidant enzymes such as Superoxide dismutase (SOD), Catalase (CAT), Glutathione peroxidase (GSH-Px) and membrane lipid peroxidation (LPO) levels were also analysed before and after one month training program. SOD, CAT and GSH-Px activities of complex vitamin supplemented groups

increased significantly ($p<0.05$) whereas they were not change for control groups except that GSH-Px. The LPO levels that indicate plasma concentration of malondialdehyde (MDA) in control groups were statistically ($p<0,001$) increased whereas it was not altered in vitamin supplemented groups.

Key Words: CK, CK-MB, LDH, GOT (AST), SOD, CAT, GSH-Px, LPO, MDA, Swimming. Physical exercise.

EFFECT OF ORAL CREATINE SUPPLEMENTATION IN THE PERIOD OF FINAL PREPARATION OF YOUNG SWIMMERS

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PURPOSE

The main objective of this study was to investigate the effect of oral creatine[1] supplementation in the period of final preparation (taper) of young swimmers.

MATERIALS AND METHODS

For this purpose a sample of eleven (11) swimmers was divided in two groups: G1-experimental (composed by 7 elements) and G2-control (composed by 4 elements). The experimental group was submitted to creatine ingestion four times a day, in a portion of 5 grams per ingestion moment [2,3,4,5]. The control group was submitted to placebo ingestion in a portion of 5 grams per ingestion moment. All the sample elements were submitted to three evaluation moments during this study (initial, intermediate and final).

We have evaluated the swimming speed (SS); Active resistance (AR); Hydrodynamic coefficient (Cx); Mechanical power (MP); Weight (Kg); Fat rate (Fat%); Water percentage (H2O%); Muscle mass. Through an inter-group analysis, we had the chance to observe that in the initial evaluation of the study, both G1 and G2 have presented similar average results.

RESULTS AND DISCUSSION

By the results pointed out we can consider that the main differences observed, despite not having statistic relevance, were noticed in the hydrodynamic values. G1 has experienced a significant reduction of these values (@ 16%), as well as for the active resistance force and general mechanical power, when comparing pre-test with post-test. In what concerns the variables related to the body composition, and when comparing the different evaluation moments, specifically in G1, slight variations can be observed (app. 3%) that may be connected with the ingestion of creatine or even with the reduction of the training volume corresponding to this training period. In what concerns the body weight, no significant changes were observed. Nevertheless, and when observing the FAT% and H2O% variable (reduction of 2.5%) and the muscles mass variable (increase of 3.7%), some alterations were deeming to be observed, despite being statistically irrelevant.

CONCLUSION

This study does not show any influence in the performance caused by the ingestion of creatine, evaluated during 13 meters, but seems to have some effects, though not statistically proved, in the propulsive efficiency and in the body composition, when comparing G1 with G2.

Key Words: Creatine; Swimming; Taper.

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THE ROLE OF GENDER AND AGE IN THE ADOLESCENTS' FOOD CHOICE CRITERIA

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The purpose of this study was to evaluate the role of sex and age in the adolescents' food choice criteria. 1003 students participated in this study from Junior High and High schools in Thessaloniki, mean age 14.62 ± 1.53 years. The data was collected with the use of a questionnaire regarding food choice criteria of adolescents and personal data. Analysis of Variance (ANOVA), chi square (X2), logistic regression and linear regression were used for the statistical analysis. The girls, compared to the boys, consumed more often foods that they considered to be healthy (Healthful Correlation Index: 0.206 ± 0.161, and 0.180 ± 0.157, for boys and girls, respectively, p = 0.007). The girls, also, had less chance (16.9%) to choose foods by its colour in comparison with the boys (24.5%), p = 0.003 and they considered the dietary value of foods to be probably a more important criterion, 44.7%, compared to the boys' consideration about it, 37.3%, p = 0.018. In addition, the girls considered the healthful index of a specific food to be more important (94.9%) than the boys (89.5%), p = 0,001. Finally, they had less chance in choosing foods high in fat (25.8%), than the boys (31.7%), p=0.038. The adolescents of younger age, between 11.5-14.5 years old, had higher consumption of foods prepared with ways they think to be healthy (Healthy Preparation Correlation Index: 0.079 ± 0.454, with a respective value for the older adolescents 0,002 ± 0,448), p = 0,009, and foods which they considered healthy (Healthful Correlation Index: 0.204 ± 0.161) compared to the teenagers of older age, 15-18.5 yrs old (Healthful Correlation Index: 0.183 ± 0.158), p = 0.030. The youngsters had less chance (62.1%) to choose foods by its appearance compared to the older ones (68.2%), (p = 0.043). The younger teenagers were, also, less eager to choose new foods (73.1%) in comparison to the older teenagers (82.8%), p = 0,001. and they had greater chance (89.3%) to choose foods according to their vitamin and mineral content, compared to the older ones (85.1%), p = 0.045. Besides, they had greater chance in choosing foods low in sugar content (44.5%) compared to the older adolescents (52.3%), p = 0.013, as well as foods low in fat content (25.7%), in comparison to the older adolescents (31.8%), p = 0.033. Finally, they had a greater chance to choose foods that they were served by their parents (72.5%) compared to the older adolescents (65.6%), p = 0.017. Thus, the girls appeared to have proper and better dietary criteria and this may be due mostly to the western culture aspect of woman and lesser to the girls' interest about their health. The healthier choices of the younger adolescents may be attributed to their closer relationship with their parents (their affection).

Key words: food choice criteria, adolescent, gender.

ANALYSIS OF POST-RACE DIETARY INTAKE IN ENDURANCE RUNNERS

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PURPOSE

Despite considerable amount of research on the effect of diet in restoring muscle glycogen after strenuous exercise, runners often seem to forget the importance of a correct nutrition after the race. A carbohydrate supplement of approximately 1g.kg body weight-1 should be consumed immediately after a glycogen-depleting exercise, such as a marathon race. Moreover, after strenuous exercise there is an increase in the requirements of certain minerals and vitamins. Since no research has been reported on the diet of runners after their long distance races, the purpose of this study was to analyse the diet of the participants of the Bilbao Marathon and half-Marathon.

MATERIAL AND METHODS

With the co-operation of the organisers of the Bilbao Marathon a questionnaire was given to the participants; 30 responded. Subjects were requested to record immediately after each meal all intakes of food, beverages, special recipes, and supplements during the marathon day and in the next two consecutive days. Analysis for nutrient composition was conducted using the Nutritionist III software program. Food items not included in database were broken down by ingredients and added to the data base.

RESULTS

The marathon day diet provided 16% (1.9 g/kg) of the total energy from protein, 47% (5.52 g/kg) from carbohydrate and 37% (1.9 g/kg) from fat. Analysing the intake of the race day and the two following days, the percentage of energy obtained was very similar. Only 17% of the runners ate more than 7g.kg-1.day-1 carbohydrates during the race day and 15% of them ate less than 4g.kg-1.day-1 carbohydrates. Some runners also had deficiencies in certain liposoluble vitamins. Moreover,

the intake of beverages containing alcohol or caffeine by some runners was high.

CONCLUSIONS

These data indicate that the post-race food intakes do not follow the recommendations of sports nutritionists. Therefore, special efforts should be made by trainers, sport physicians and specialised journals to put emphasis on diet recommendations after a race.

Key words: runner, diet, glycogen, vitamins.

THE USE OF ROYAL JELLY AS A SUPPLEMENT IN SPORT DIET

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PURPOSE

We studied the effects of royal jelly used as a supplement in sport diet.

MATERIALS AND METHODS

It was studied the effects on 20 athletes, which were divided on two lots composed each by 10 athletes.

The first lot received for six months royal jelly as a supplement on diet meanwhile the second lot was used as a witness.

At the athletes of the first lot we administrate dragees of royal jelly that contained 2 g of pure royal jelly, on a cure of 1 dragee/day for 10 days each month.

RESULTS AND CONCLUSIONS

We observed that after using royal jelly for about two months, the athletes of the first lot presented a visible augmentation of their effort capacity.

Their values were better as their previous performances for example the capacity of aerobe effort presented an average increase of 10%, meanwhile the performance of the athletes of the second lot didn't presented any modification.

THE EFFECT OF INCREASING BLOOD LACTATE FOLLOWING THE INGESTION OF YOGURTS ON VARIOUS PARAMETERS OF PHYSICAL PERFORMANCE

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Fermented dairy products are included in the athlete´s diet. The purpose of the study was to investigate : 1.- If the lactic acid content of ingested yogurts can contribute to the lactacidemia produced by intense exercise . 2.- If the suplemental lactic acid of yogurts could be used as a gluconeogenic precursor during exercise.

SUBJECTS AND METHODS

Two subjects (woman and man) ingested 5 yogurts (4.5 grs lactic acid) and blood lactate was measured at rest after 30, 60, 90 and 120 minuts following the ingestion .In another setting the same subjects plus and additional volunteer (female) ingested the same amount of yogurts and 30 minutes thereafter performed a maximal bicycle test . Blood lactate concentration was measured before the ingestion of yogurts, 30 minutes thereafter (still before the test) at the end of the bicycle test and 5 minutes after recovery. The workload was increased 50 watts every 3 minutes until volitional fatigue. The two L-and D isomeres of lactic acid were measured in blood of a cubital vein by an enzymatic UV method (Boehringer, Mannheim).

Influence of ingestion of yogurts and the supplementation with a diet rich in carbohydrates on acid base balance and parameters of physical performance.

After a graded stress test to determine the V0 2 max 10 runners performed a stress test during 30 minutes at the anaerobic threshold followed by a power output corresponding to 75% of delta anaerobic threshold until volitional fatigue.In a double blind and randomized design each runner had ingested two yogurts, and milk and performed a stress test after each ingestion with a week of wash-out in between. Later on the runners were divided into two groups . One group ingested milk and a supplement of 55-60% of carbohydrates and the other group ingested two yogurts and was also supplemented with 55-60% of carbohydrates. Following each regimen the runners performed a stress test as described before. During the tests, VO 2, blood pH , VCO 2 HR, VE, L-Lactic acid, D-Lactic acid and endurance time were recorded.

CONCLUSIONS

The results have shown that the ingestion of 4.5 grs of lactic acid in form of yogurts before a stress test do not increase the blood concentration of lactic acid and do not impair performance. It is speculated that the absorption of lactic acid can be attenuated by other components of yogurt. The supplementation of yogurt with additional ingestion of high carbo load do not prolong endurance time nor modify any of the physiological parameters.

DAILY VEGETABLE AND FRUIT INGESTION IN ELITE ATHLETES OF AN OLYMPIC TRAINING CENTER

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INTRODUCTION

Diets rich in a variety of vegetables and fruits are being recommended together with some lifestyle changes (no smoking and regular moderate exercise) to prevent cancer (World Cancer Research Fund, WCRF).

It has been postulated that the protective effect is mainly due to complex interactions between vitamins, minerals, fiber and plant chemicals rich in antioxidants. Elite athletes produce high amounts of reactive species of oxygen (ROS) mainly due to intense training and frequent competitions. It has been shown that ROS and other free radicals can damage cell structures associated with a variety of conditions, cancer among them.

The purpose of the study was to evaluate the ingestion by a group of elite athletes at the CAR of the daily amount of vegetables and fruits recommended by the WCRF.

METHOD

According to the WCRF, eating 400-800 grams (15-30 ounces) (or five or more portions) of vegetables and fruits can by itself decrease the risk of cancer by as much as 20%. A nutritional analysis with Diet Balancer (Ver. 2.0 for Windows 98) was performed during 5 days on a group of 49 athletes of various disciplines (synchronized swimming, taekwondo and judo). The results of the ingestion of vegetables and fruits were compared with that of the general Catalan population. We have taken as a cut-off the level of 500 grams instead of 400 as recommended by WCRF because storage, pesticides, herbicides and other chemicals can substantially diminish the content of beneficial substances.

RESULTS AND CONCLUSION

7.8%, 14.3% and 9.6% of athletes of synchronized swimming, taekwondo and judo respectively ingested more than 800 grams per day, 54.8%, 29.6% and 52.4% respectively ingested more than 500 grams and 38.4%, 57.1% and 38 % respectively ingested less than 500 grams. The mean ingestion of the general Catalan population (data from the Generalitat de Catalunya) is 379.4 grams. The vegetables with the highest consumption levels are tomato (79%) followed by red pepper and green leaf vegetables (35%). The most preferred fruits.

DRINKING PATTERNS OF SPANISH SOCCER PLAYERS

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BACKGROUND

On reviewing the literature we observe that there is still some controversy about the adequate fluid intake in soccer players. Therefore, in this study we want to add our experience to this field.

OBJECTIVE

The aim of the study is to determine the drinking patterns of Spanish soccer players, in order to determine if they are following the current fluid intake guidelines of the American College of Sports Medicine.

SUBJECTS AND METHODS

100 Spanish professional soccer players who play in the Spanish first and second league answered a questionnaire based on the literature developed by our group which has been used previously. They were asked specifically about their drinking habits during training and competition time. They were also asked about having noticed (subjectively) several symptoms that are associated with dehydration.

RESULTS

Water was the beverage most consumed before, during and after exercise, followed by electrolytic beverages and fruit juices. Most of the soccer players reported having often noticed tiredness, intense thirst, lost of strength and fatigue.

CONCLUSIONS

It is necessary to insist on the necessity of establishing adequate drinking patters before, during and after training and competition time.

Keys words: sport nutrition, fluid intake, performance, health, soccer.