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The Nutrition and Health Profile of the Turkish Female National Weightlifting Team who attended to Pre-Camp of Beijing Olympics- Pilot Study

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Abstract

In this study, National Turkish weightlifter female team who joined preparation camp before 2008 Beijing Olympiads nutrition habits, food intake, using of nutritional ergogenic aids, anthropometric measures and biochemical findings have been evaluated. Nine athletes who have been taken the camp participated to this study. The information were collected about their anthropometric (height, body weight, waist-hip circumference, waist / height ratio, body fat values) and biochemical measures, nutritional habits of the athletes. Total energy were evaluated by taking three days food consumption records of macro and micro-nutrient consumption and and analyzed with nutrition information program (BEBIS). All the parameters have been analysized as statistics, mean and standart deviations have been calculated. It has been determined that athletes haven't intake sufficient energy, needs of macro and micro nutrition nutrients (especially, they have been consuming protein, carbohydrate, calcium, potassium, iron, folic acid and B_1 vitamin insufficently), and their intake of fluid and fibre are insufficent. It has been found that athletes are using supplements (aminoacid, whey protein, multivitamin/mineral, tribulus terrestris, glucozamine chondroitin sulfate, gincgo bloba ve creatine) and they aren't conscious enough using these products. Inspite of aminoacid and protein supports, it has been understood that intake doesn't cover necessity. It has been found as average of athletes age is 19.7 ± 3.7 years, average of height is 156.7 ± 5.9 cm, average of body weight is 57.5 ± 10.4 kg, average of body mass index (BMI) is 23.2 ± 2.7 kg/m^2, average of body fat percentage is %21.8 ± 5.9, average of body fat mass 13.0 ± 5.9 kg. It has been found that there were five athletes who are more heavier than body weight (3.2± 1.0 kg) by competition weight, and there is one athletes who has lower weight (4 kg) by competition weight. It has been concluded that athletes have needed more information about nutrition and using ergogenic aids.

Key words: Turkish national female weightlifters, nutrition, Beijing olympics

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Pekin Olimpiyatları Öncesi Kampa Katılan Türk Halter Kız Milli Takımının Beslenme ve Sağlık Profili -Ön Çalışma

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Özet

Bu çalışmada, 2008 Pekin olimpiyatları öncesi hazırlık kampına katılan Türk halter kız milli takımının beslenme alışkanlıkları, besin tüketimleri, besinsel ergojenik destek kullanımları, antropometrik ölçümleri ve biyokimyasal bulguları değerlendirilmiştir. Çalışmaya kampa alınan 9 sporcu katılmıştır. Sporcuların antropometrik (boy uzunluğu, vücut ağırlığı, bel-kalça çevresi, bel/boy oranı, vücut yağ değerleri) ve biyokimyasal ölçümleri ile beslenme alışkanlıklarına yönelik bilgiler toplanmıştır. Toplam enerji, makro ve mikro besin öğesi tüketimleri 3 günlük besin tüketim kayıtları alınarak ve beslenme bilgi programı (BEBIS) ile analiz edilerek değerlendirilmiştir. Elde edilen tüm verilerin istatistiksel değerlendirmesi yapılmış, ortalama ve standart sapma değerleri alınmıştır. Sporcuların enerji, makro ve mikro besin öğeleri gereksinimlerini yeterli düzeyde karşılamadıkları (özellikle protein, karbonhidrat, kalsiyum, potasyum, demir, folik asit ve B_1 vitaminini yetersiz tükettikleri), sıvı ve posa tüketimlerinin de yeterli düzeyde olmadığı saptanmıştır. Sporcuların beslenme destek ürünü (aminoasit, whey protein, multivitamin/mineral, tribulus, glukozamin kondrotin sülfat, ginkgo bloba ve kreatin) kullandıkları fakat kullanım düzeyleri konusunda yeterince bilinçli davranmadıkları bulunmuştur. Aminoasit ve protein desteklerine rağmen, tüketimin gereksinimi karşılamadığı belirlenmiştir. Sporcuların yaş ortalaması 19.7 ± 3.7 yıl, boy uzunluk ortalaması 156.7 ± 5.9 cm, vücut ağırlık ortalaması 57.5 ± 10.4 kg, vücut kütle indeksi (VKİ) ortalaması 23.2 ± 2.7 kg/m^2, vücut yağ yüzdesi ortalamaları %21.8 ± 5.9, vücut yağ ağırlığı 13.0 ± 5.9 kg bulunmuştur. Vücut ağırlığı sıkletinden fazla olan 5 sporcu (3.2 ± 1.0 kg), düşük olan 1 sporcu (4 kg) olduğu saptanmıştır. Sporcuların gerek beslenmeleri gerekse ergojenik destek ürünü kullanımı konusunda daha fazla bilgilendirmeye gereksinimleri olduğu sonucuna varılmıştır.

Anahtar kelimeler: Türk halter kız milli takımı, beslenme, Pekin olimpiyatları

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Introduction

Weightlifting is one of the most difficult sport activites. Effort that showed at the time of breaking off and shaking off is determination of power. Weightlifting being known as power sport is different from many branches of sport. It is needed short time activity depend on power. Because of needing of energy and aims of exercise is different from endurance sports. For a success weightlifting performance, it is needed a suitable nutrition (energy, macro, micro nutrients and fluid intake adequate) suitable physiology profile, power of muscle, endurance of muscle and flexibility (Fry et al., 2006).

Enhance sporting performance is very important for the most athletes, especially olympic athletes. To get better performance from the competitor, athletes are prefering to change their body composition with gaining and lossing weight (Fink et al., 2006). Their wrong application about losing weight (as using diuretic, dehydration) cause becoming of decreasing their performances. It is widespread that using supplements between athletes. Athletes use supplements to cover their needing of nutrition caused by dense exercises, to be sure about enough nutrition and to get ergogenic effect (Ersoy, 2007).

In this study, it is tried to obtain information about Turkish female weightlifting team's nutrition and using ergogenic aids, whether that they provide their nutritional needs or not, their practices of weight control, anthropometric measures and health conditions.

Methods

General procedure

Athletes have been informed about the work and they have joined the work with their own request. At the same time the researches were working in the national team's camp as adsiver and dietician, at that has provided an opportunity to run more smoothly on this study. This work has been done for four mouths at the time of January- April 2008 when Turkish female weightlifting team is in Ankara at the camp.

Sample

Nine female weightlifter have joined the work who are between ages average are 19.7± 3.7 years and sports ages average are between 7.8± 4.1 years. Questionnaire has been filled by using face to face tecnique with athletes.

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Anthropometric assessment

Anthropometric measures of athletes were analyzed by the physician who is working in the Sport Education Health Research Center (SESAM), which is connected to Youth and Sports General Directorate, and were found body mass index (BMI), body density, body fat percentage and fat free body mass.

Height has been measured by Detecto mark stadiometer (capacity 200*0.1kg, 400*0.2lb) which is sensitivity of turned towards back, undressed feet and arms are near the body. And head is frankfort plane. Weight has been measured with Detecto mark scale which is sensitivity of 100 g, by measuring t-shirt and short. Body mass index has been calculated by dividing body weight to height's square. (American College of Sports Medicine-ACSM, BMI=kg/m^2).

Skinfold measure has been done by Holtain mark skinfold caliper. Measures have been takes as sensitivity of 0.1 milimeter. Measures have been done third time from the right side of body and their averages have been calculated. By taking chest, triceps, subscapula measures, dense of body has been evaluated and, percent of body fat has been evaluated by using Siri formula.

Measuring of hip and waist has been done with nonflexible plastic metre whose wideness is 1.5 cm and length is 150 cm. Abdomen circumreference measure has been measured at the state heels of athletes are contiguous, his hands and arms are near the body and stand upright after normal breathing. For measuring circle of hip, from symphysis pubis level and projecting part of hip mucles levels have been measured.

Biocehemical assessment

After nearly 12 hours hunger athletes blood has been taken by health employees who has been working in SESAM and their blood (hemoglobin, hematocrit, MCH, MCV, MCHC, GOT, GPT, uric acid evaluations have been examined.

Dietary assessment

Three days food consumption records were taken to determine food consumption status of athletes. Energy and nutrients were calculated by using the program "Nutrition Information System (BEBIS)" after calculating a portion amounts of the eaten meals. The status of the nutrients to meet their requirements were evaluated by comparison with standard values (Dietary Reference Intakes-DRI, Insel et al., 2004). In addition, the using ergogenic aids were evaluated to contribution levels of the meet requirements.

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Statistical assessment

Evaluating of statistics measurements have been done by using SPSS for 11.5 statistics package programme in windows. Evaluated parameters mean and standart deviation have been calculated and for some parameters athletes correlation has been looked.

Results

Sample characterization and anthropometrics assessment

Athletes ages average were found as 19.7 ± 3.7 years, their sport ages have been found as 7.8 ± 4.1 years, their exercise days have been found as 6.0 ± 0.0 days/week, and their exercise hours have been found as 22.6 ± 2.2 hours/days (Table 1). Acording their education, it has been fixed that four athletes were graduated of university and five athletes were graduated of high school.

Their height length averages were 156.7 ± 5.9 cm, body weight averages were57.5 ± 10.4 kg, body mass index were 23.2 ± 2.7 kg/m^2, body fat percentage average were %21.8 ± 5.9 and body fat mass were 13.0 ± 5.9 kg (Table 1).

Table 1: Anthropometrics measures

Variables	**Athletes (n=9)**	
	Mean (the highest-the lowest)	**Standart deviation**
Age (year)	19.7 (15-25)	3.7
Sports age (year)	7.8 (3-14)	4.1
Exercise day/week	6.0 (6-6)	0.0
Exercise hour/week	22.6 (18-24)	2.2
Anthropometrics parameters		
Height (cm)	156.7 (150-167)	5.9
Body weight (kg)	57.5 (43.9-77.3)	10.4
Body mass index (kg/m^2)	23.2 (19.5-27.7)	2.7
Percentage of body fat (%)	21.8 (15.0-31.7)	5.9
Mass of body fat (kg)	13.0 (7.7-23.1)	5.9
Mass of body fat free (kg)	44.4 (35.8-54.1)	5.0
Measures		
Waist (cm)	70.5 (65-85)	7.5
Hip (cm)	94.4 (82-105)	7.0
Waist / hip ratio	0.7 (0.7-0.8)	0.0
Waist / height ratio	0.4 (0.4-0.5)	0.0

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Biochemical assessment

Biochemical results of athletes were determined to be the recommended ranges (Table 2). In feaces samples taken to detect for parasites that have been found E. Histalytica in one of the four athletes, five athletes did not give the sample. By the physician recommendations the antibiotic treatment has began to the athletes who were found parasites.

Table 2: Biochemical measurements

Variables	**Mean (the highest-the lowest)**	**Standart deviation**
Glucose (75-115 mg/dl)	90.3 (79.1-104.4)	7.1
Urea (10-50 mg/dl)	22.0 (11.3-31.0)	7.1
Cholesterol (30-200 mg/dl)	157.9 (123.4-191.1)	24.7
Trigliserid (25-200 mg/dl)	66.0 (36.5-123.4)	29.5
Uric acid (2-7 mg/dl)	2.7 (2.1-4.1)	0.6
GOT (5-37 U/l)	26.9 (5.0-53.5)	13.8
GPT (5-40 U/l)	20.5 (9.3-34.4)	8.7
Gamma GT (7-50 U/l)	12.5 (6.9-19.2)	5.4
Hemoglobin (12-18g/dl)	14.6 (13.1-16.1)	0.9
Hematocrit (% 35-55)	42.1 (38.8-45.1)	2.2
MCV (80-99.9 fL)	87.7 (76.2-92.6)	5.7
MCH (27-33 pg)	30.6 (25.0-32.8)	2.4
MCHC (33-37g/dl)	34.8 (32.8-35.7)	0.8

Dietary assessment

Five athletes have said that they have been eating three times in a day, four athletes said they have been eating four times a day. It has been determined that most of athletes haven't eaten anything in the afternoon. While all the athletes have said that using nutritional supplement is necessary, only two athletes have said that they haven't got any information about this subject. They have said that they have been consulting their trainers about using ergogenic aids- when been asked about what kind of practicals are done to reach competition weight, all the athletes have said that they are careful about their nutrition and they increase their dense of exercises (Table 3).

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Table 3: Nutrition habits of athletes

Variables	**n**
Number of meals	
3 meals	5
4 meals	4
Missing the meals?	
no	4
sometimes	5
Missing meals?	
Morning	1
Noon	4
Usege assessments of nutritional supplements	
Necessary	9
Knowledge about nutritional supplements?	
Yes	7
No	2
What do you do when you want to reach your weights?	
I do change my nutrition and training	9

Average energy, macro and micro nutrients obtained from the result of data about nutrition intake of athletes intakes are given in Table 4. The average energy intake is 1732 ± 425.1 kcal/day, the average macro nutrient intake is for protein; 1.6 ± 0.4 g/kg/day, for carbohydrate; 3.5 ± 1.2 g/kg/day, for fat; 1.0 ± 0.4 g/kg/day. When the intake of protein, carbohydrate and fat is calculate, it has been defined as respectively 22.4%, 47.7% and 29.9%. At this working, it has been determined that there is inadequate about energy, macro and some micro nutrients of athletes (Dietary References Intakes- DRI, Insel et al.2004). Also it has been defined that there is an instability in the nutrients distribution percents of energy (Table 4).

All the athletes were using ergogenic product. It has been determined that the most common ergogenic aids they use are protein and aminoacid tablets (five athletes only aminoacid, two athletes whey protein+aminoacid tablets) and only two athletes have used mutivitamin/minarel tablets. Moreover it has been established that the number of athletes who use tribulus terrestris is seven, who use glucosamine chondroitin sulfate is two, who use gincgo bloba is two, who use creatine is two respectively. Seven athletes use ergogenic aids that containing protein. However it has been established that the addition of the ergogenic aid to protein taken via diet is little (average protein taken via diet is 1.6 ± 0.4 g/kg/day, average protein taken via ergogenic products and diet is 1.7 ± 0.4 g/kg/day).

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The folic acid and fiber consumption were found deficient of the athletes It has been established that seven athletes has calcium inadequate, three athletes has inadequate of B_1 vitamin, five athletes has iron inadequate and only one athletes has inadequate of C vitamin (Insel et al. 2004).

Table 4: Energy, macro and micro-nutrient consumption of athletes

Energy and Nutrients	**Mean (the highest-the lowest)**	**Standart deviation**
Energy (kkal)	1735.2 (1042.4-2379.6)	425.1
Proteins (g)	90.1 (70.6-119.5)	15.3
Vegetable protein (g)	22.1 (9.1-34.4)	7.1
Animal protein (g)	67.9 (55.8-85.1)	10.2
Protein percentage (%)	22.4 (19-29)	3.8
Protein intake with diet g/kg	1.6 (1.0-2.2)	0.4
Ergojenik products + protein intake with diet g/kg protein	1.7 (1.1-2.3)	0.4
Fats (g)	57.0 (34.9-84.8)	16.0
Saturated fatty acid (g)	18.4 (10.7-29.4)	6.5
Monounsaturated fatty acid (g)	19.4 (12.0-27.8)	5.5
Polyunsaturated fatty acid(g)	15.4 (9.2-22.1)	4.4
Cholesterol (g)	251.2 (183.0-368.0)	54.6
Fat percentage (%)	29.9 (24-36)	3.5
Intake of fat g/kg	1.0 (0.5-1.6)	0.4
Carbohydrates (g)	200.4 (99.6-271.4)	59.9
Carbohydrate percentage (%)	47.7 (36-53)	6.0
Intake of carbohydrate g/kg	3.5 (1.6-5.2)	1.2
Fibre (g)	15.3 (10.2-22.1)	4.1
Vitamin A (µg)	2195.1 (821.0-3761.3)	1026.3
Vitamin E (mg)	15.9 (10.5-22.3)	4.4
Vitamin B_1 (mg)	0.8 (6.0-1.1)	0.2
Vitamin B_2 (mg)	1.2 (0.8-1.9)	0.3
Niacin (mg)	24.2 (19.9-30.9)	3.9
Panthotenic acid (mg)	5.0 (3.3-7.0)	1.1
Vitamin B6 (mg)	1.9 (1.6-2.4)	0.31
Biotin (µg)	27.5 (15.1-40.2)	7.1
Folic acid (µg)	100.0 (76.2-156.3)	26.8
Vitamin B_{12} (µg)	4.9 (3.3-6.2)	0.9
Vitamin C (mg)	95.4 (36.6-136.4)	33.6
Sodium (mg)	2580.2 (1562.3-3824.4)	753.9
Potassium (mg)	2517.2 (1920.9-3322.4)	503.7
Calcium (mg)	628.0 (397.5-1060.5)	244.8
Magnesium (mg)	273.9 (181.0-370.2)	64.2
Phosphorus (mg)	1257.4 (928.8-1808.9)	287.5
Iron (mg)	9.4 (5.6-13.3)	2.5
Zinc (mg)	9.9 (6.4-14.8)	2.7

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The daily average fluid intake of the athletes, which source they take their fluid necessity from and how much percent of body fluid weight athletes lose during an exercise for 2.5 hours are on the Table 5. Total fluid intake average is 2865 ± 564.5 ml/day. It has been determined that having been 2.5 hours exercise, there is a fluid losing on the proportion of average 1.6% of the body weight. That has been found that there were no significant differences between the athletes' total fluid intakes and the amount of loss of fluid during the exercise (p>0.05).

Table 5: Daily fluid consumptions of athletes and the amount of fluid loss during an 2.5 hours of exercise.

Variables	**Mean (the highest-the lowest)**	**Standart deviation**
Water (ml)	1666.6 (500.0-3000.0)	750.0
Tea- nescafe (ml)	346.6 (200.0-800.0)	206.5
Fresh fruit juice (ml)	396.0 (330.0-660.0)	147.5
Carbonated drink (ml)	565.7 (330.0-990.0)	249.4
Total fluid intake (ml)	2865 (2190.0-4060.0)	564.5
Quantity of fluid during the 2.5 hours exercise **(ml)** **(total body water %)**	 1022.2 (800.0-1700.0) 1.6 (1.2-2.2)	 268.2 0.3

p;0.250, spearman's corelations factor 0.428.

Discussion

Result of this study, the ages average of athletes are 7.8 ± 4.1 years, weekly exercise hour averages are 22.6 ± 2.2 hours/week has been found. Another study which has done on national ten weightlifters, the sport age weightlifters are 4.9 ± 1.1 years, exercise density are 4.0 ± 0.1 hours/week has been found (Pehlivan, 1990). It is said that, the intensity of exercise changes as dependent on the sport age.

Height averages were 156.7 ± 5.9 cm, body weight average were 57.5 ± 10.4 kg, body fat percent averages were 21.8 ± 5.9%, body fat mass were 13.0 ± 5.9 kg in the measures. Waist/hip ratio and waist/height ratio were found in the limits which was

suggested (Baysal and Baş, 2008). It has been determined that there are five athletes having more heaviness than the competition weight (3.2 ± 1.0 kg), and there is a low athletes (4kg). In another study which worked with 10 wrestlers and 10 weightlifters by Bilgic, that were found all of the athletes were approximately 4.5 kg overweights than their weights (Bılgic 2003). In the another study which determined anthropometric measures of elit weightlifters (mean age of 14.8 ± 2.3 year) by Fry et al. that their average body weight were 67.3 ± 10.4 kg, percentage of body fat was 6.4 ± 2.9 kg, body fat free mass was 63.7 ± 8.4 kg (Fry et al. 2006). When compared with studied datas, it is implied that their body weights were more over, their body fat percents were lower, and their body muscle mass were higher.

It has determined, that the biochemical parameters of athletes were in the suggested limits. It has determined that five of the athletes have iron inadequate with the diet, even though the blood parameters of the athletes (hemoglobin, hematocrit, MCV, MCH, MCHC) were not found under the normal level. Besides, four athletes who gave feces sample, that parasit found only one of them. The antibiotic treatment was started to them at the suggestion of a physician.

In another study found HDL the cholesterol level high in wrestlers and low in weightlifters (Jouhainen et al., 1985). Kasap in the study about forty-five male wrestler whose ages were 17-25 years, the found 54.6% percent of the wrestlers hemoglobin levels were 14-15 mg/dl and he determined that there wasn't any wrestler whose hemoglobin level was low (Kasap 1979). In the other study, the average of cholesterol levels of ten national weightlifters were found 209 ± 40.5 mg/dl, trigliserid 129.1 ± 1.5 mg/dl, HDL 56.1 ± 5.7, LDL 89.7 ± 8.1, VLDL 25.8 ± 11.0 was found (Pehlivan, 1990).

At this study, it has been determined that there are some energy, macro and micro nutrients insufficiencies intake to the athletes. Average energy intake is 1732 ± 425.1 kcal/day, protein, carbohydrate and fat intake daily energy distribution has been examined it has been respectively 22.4%, 47.7% and 29.9%. The datas; There is no DRI value for athletes, therefore, results compared with non-sports people DRI values. According to result of this comparison it has seen clearly that athletes were not consuming adequate energy. Athletes should consume much more energy than non-sports people, but they inadequate energy consumed. On the study about the national male weightlifters, the averages of nutrients athletes consuming daily were found, 5290 kcal/day, 168 g/day proteins, 2717 mg/day calcium, 37 mg/day iron, 13760 IU/day vitamin A, 1.9 mg/day vitamin B_1, 4 mg/day

vitamin B_2, 27 mg/day niacin ve 220 mg/day vitamin C (Pehlivan 1990). In another study which was based on 103 female athletes; according to ther nutrition consumption energy and according to their nutrition distrubution of energy respectively, 1812 kcal/day, 67.2%, 12.8%, 19.9% have found (Mazloom et al. 2008). Pehlivan on her study; he determined that the ratio of the protein which profils from the weightlifters dietary food is 12%, he determined that this ratio is low for weightlifters (Pehlivan 1990). In another study which was made on wrestlers; energy inhibition was significantly decreasing the anaerobic performance on wrestlers and it has determined that performance was fixed with high carbonhydrate diet (Rankin et al., 1996).

The average protein intake of athletes is 1.6 ± 0.4 g/kg and it is lower than the limit being suggested for power athletes (Güneş, 2005). Although athletes use protein support (aminoacid tablets, whey protein), average of protein getting from the ergogenic product and diet are determined as 1.7 ± 0.4 g/kg and the effect of the protein getting from ergogenic product is insufficient for the protein getting from the diet (1.6 ± 0.4 g/kg) and it can be said that their talking with their trainers about intake causes insufficient intake. Using ergogenic product is important and it should be consulted to a physician or an expert dietitian for consuming quantity. Pehlivan (1990), before a week to the Olympic games gave 88 g/100g protein with fluid bevarages to the weightlifters during four months for each day then she determined a meaningful difference in a plasma protein values (Pehlivan, 1990). It has been determined that the athletes don't consume four food groups reguarly every day when the food consuming frequency is examine when the athletes are questioned for "the foods they abstain from consuming" since "they are afraid of gaining weight and they consider the protein more important nutrient in their sport" they say that they have abstained from consuming the foods carbohydrate. This situation is the reason of being low of carbohydrate percent on the energy distribution. The study of Kasap on active wrestlers, she concluded that the wrestlers of 91.1% believed that eating over meat brought success (Kasap, 1979).

It was examined that it was insufficient taking fiber of athletes and this situation was related to insufficient fruit- vegetable intake. It was determined that folic acid was consumed insufficiently by nine athletes and it was the reason of the less of legumes and especially green vegetables in menus.

It has been found that receiving fiber among all athletes is deficient and this situation is associated to deficient fruit and vegetable intake. It has been stated that folic acid is

consumed inadequate by nine athletes and in their menus; especially there are very few green-leaved vegetable and legumes. It has been found deficient potassium intake among six athletes and calcium intake among seven athletes with diet. When the reasons of this situation are examined, it is determined that athletes have consumed meat mostly, have ignored fruits and vegetables, have chosen carbonated drink instead of fresh fruit juice, have not consumed yoghurt and have not drunk milk. Two athletes who consumed deficient calcium with diet have said that they have muscular cramps. It has been detected iron inadequate at the nutrition intake of five athletes. Moreover it may be said that one of four athletes who gived excrement sample has intestine parasite and this increases tendency to iron inadequate. As it is known; intestine parasite depending on iron inadequate increases tendency to inadequate (Baysal, 2007). Especially among female athletes, calcium and iron inadequate increase the risk about both bone health and amenore and this situation causes health problems by effecting sports performance negatively. Therefore it mustn't be forgotten to take calcium and iron sufficiently made comparison between twenty-five elite young weightlifter (average ages are 17.4 ± 1.4 years) and eleven young control grup (average ages are 16.9 ± 1.1 years) from the point of bone mineral density and they found bone mineral density considerably high among weightlifter youngs than the other youngs (Canroy et al., 1993). In their work, Beek et al. appointed that among the individuals who lack of thiamine, riboflavin and vitamin B_6, there is a decreasing at the rate of 12% in the physical performance capacity and increasing at the rate of 12% in blood lactate increase. Suboticanec et al. appointed vitamin B_6 inadequate in 24% of 124 boys between 12-14 years, vitamin B_2 inadequate in 19% of these 124 boys (Manore, 2000). In another study, established that the level of plazma vitamin C, E and the activity of glutation peroxidase is mostly low in weightlifters on the research launched to examine the damage on muscle cell and the changes on the antioxidant capacity of an eleven week training of nineteen elite female weightlifters who were occupied with weight lifting and are among the ages of 18 -25 years. As a result, it has been detected that after one week heavy training, among female weight lifter, stress and cell damage increased but after the break (Lıu et al., 2005).

While all athletes are giving answer as "necessary" about usage of nutritional supplement, two athletes have indicated that they give answer without having a knowledge. At work by Ozel, determined that 75% of weighlifter consider nutritional supplements necessary, 7.5% of weightlifter consider it very necessary, 15% of weightlifter consider it not

necessary, 2.5% of weightlifter see it as a wrong attitude (Ozel, 1995). Intense activity increases the necessity of protein, vitamin and mineral. Therefore nutritional supplements may be needed (Wolfe, 2000). Protein powder, multivitamin-mineral tablets may be used in the stituation of deficient consuming at nutrients with diet.There is no affect in the situation of enough consuming with diet. It is determined that the ergogenic aids which is used mostly by the wight-lifter are protein and aminoacid tablets (five athletes only aminoacid tablets, two athletes only whey protein+aminoasit tablets) and only two athletes use multivitamin-mineral tablets. Moreover it is determined that among the athletes, seven of them use tribulus terrestris, two of them use glucosamine chondroitin sulfate, gincgo bloba and creatine. Athletes have said that they take their trainer's advice about the amount of ergogenic productions they use. At study of Ronsen et al. determined that 45% of power sportives use creatine, 30% of them use protein/aminoacid, 88% of them use vitamin, 82% of them use mineral, 94% of them use iron, 88% of them use vitamin C (Ronsen et al., 1999). At study of Kerksick et al. detected an important increase at lean body mass of the sportives how use whey+casein support at the end of 10 weeks (Kersick et al. 2006). In another study has found that ergogenic aid has no affect about anaerobic performance increase on the athletes who consume diet sufficiently (Fry et al., 2006). It has been observerd that a 24-year-old weightlifter who use creatin and the other suplements for body building has proteinuria and acute kidney failure but after giving up the suplements, the athletes begin to heal (Thorst et al., 2006).

Within the investigation, it has been found that average fluid recieving of athletes is 2865 ± 564.5 ml on the other hand the fluid they lose in 2.5 hours training is 1022.2 ± 268.2 ml. Average fluid loss per body weight is 1.6 %± 0.3 of their weight. It has been found that average carbonated drink intake among seven athletes is about 565.7 ± 249.4 ml/day. Although the athletes are adviced to consume fresh fruit juice, they prefer carbonated drink. This situation caused both their recieving empty energy and inadequate vitamin C and potassium. Also, athletes were using an alcohol. At study of Akbaba, upon eighty wrestlers has detected that the answers of his quesions to the wrestlers about their drink choice are respectively fruit juice and tea (Akbaba, 2003). In another study investigation detected that 60% of athletes do not use alcohol, 20% of athletes drink alcohol to feel themselves relax, 15% of athletes drink alcohol because of 15% of athletes drink alcohol to get bored. At this study has not coincide the athletes who drink alcohol continuous (Özel, 1995).

When athletes were asked the question "what kind of an application do you in order to reduction weight ? They responded " it do variations on my nutrition and training". Who made changes in their nutrition said that by decreasing of bread, carbonated drink, rice and pasta and also they reported that they were not using diuretic drugs. This is a positive finding. In another study, stated that the most common method in the loss of weight is the increase of activities and decrease of food and the unreliable methods which are vomiting and laxative usage are both unhealthy and performance decreasing (Marquart, 1994). In Another research, wrestlers expressed that they lose weight by staying hungry more, exercising more , going on a diet and spending some time in sauna (Kasap, 1979). In another researh done on wrestlers attending high school it was established that the most common weight losing method is increasing exercise and decreasing the intake of food and that is the appropriate method in losing weight (Ersoy, 2007).

As a conclusion, it has determined that there was inadequate in energy consumption, there was instability to the nutrient distribution of energy, they were afraid of gaining weight and they saw protein very important nutrition for their sports. It has been detected that they consume inadequate carbohydrate and they cannot meet protein necessity with diet. Despite of seven atheletes who were using protein support, it has determined that they couldn't get enough support from the ergogenic product because of taking advise from their tariners instead physician about the amounts of consumption. It has been determined that the athletes used aminoacid tablets, whey protein, multivitamin/mineral tablets, tribulus terrestris, ginkgo bloba, creatine, glucosamine chondroitin sulphate as ergogenic support. It has been detected some inadequate in some vitamins and minerals especially in iron, calcium, potassium, phosphorus. There were inadequate in taking fiber and fluid. Atheletes should be more infromed about nutrition, usage of ergogenic products, fluid consuming.

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