

# ACTA MEDICA MARISIENSIS

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UNIVERSITY OF MEDICINE AND PHARMACY OF TÂRGU MUREȘ



## **The 4<sup>th</sup> Dietitian National Conference “Child obesity - Updates, Prevention and Treatment Perspectives”**

Tîrgu Mureș, Romania  
1-2 November 2017

## **The 3<sup>rd</sup> International Sport Nutrition Conference “Transdisciplinary Research in Physical Therapy, Physical Activity and Sports Nutrition”**

Tîrgu Mureș, Romania  
3-4 November 2017

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VOLUME OF ABSTRACTS



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**BOOK OF ABSTRACTS**

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# The 4<sup>th</sup> Dietitian National Conference “Child obesity - Updates, Prevention and Treatment Perspectives”

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## CORRELATION BETWEEN DIAGNOSTIC OF PHYSICAL DEVELOPMENT AND PERCEPTION OF OWN BODY WEIGHT IN A GROUP OF ADOLESCENTS FROM IAȘI

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**Background:** Growth and development are two processes that tailor the early years of life. The growth is uneven; the growth periods in length alternate with growths in thickness. In this context, the diagnosis of obesity in the pupil should be done with a lot of attention, due to the possible confusion between obesity and a simple growth spurt. Also, the idea of a weight loss diet for a pupil is not beneficial as it can generate the disruption of growth and development.

**Methods:** The study was conducted on a group of 99 adolescents from a high school in Iași, from 9th and 10th classes. The diagnosis of physical development was assessed concurrently with their own perception of body weight, which is: “just right”, “too big” or “too small”.

**Results:** Harmonious development is present in 62.62%, but body weight is perceived as “just right” in 55.55% of cases. The disharmonious development with excess weight is present in 16.16% of the cases but personal body weight is perceived as “too big” in 27.27% of the interviewed students. Diagnosis of disharmonious development with weight deficit occurs in 21.21% of cases, but the weight is perceived as “too small” in only 17.17% of cases.

**Conclusions:** Young people are concerned about physical appearance, but the interpretation of body weight is often wrong, being dependent on the current beauty ideal. They should not be guided by drastic weight loss diets, but by increasing the amount of time they spend on physical activity.

**Keywords:** body weight, disharmonious development, obesity

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## HELICOBACTER PYLORI INFECTION IN PEDIATRIC POPULATION FROM SUCEAVA, ROMANIA

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**Aim:** To report prevalence of Helicobacter pylori infection in pediatric population from Suceava county, during January 2015-September 2017 and to compare the results with other regions of Romania.

**Methods:** The Hipocrat Laboratory is an outpatient clinic, RENAR certified, medium sized, where we processed 1036 samples to detect H. pylori antigen in faeces. Out of the studied samples, 221 were from children, aged 0-18 years old. The method used was the immunochromatographic rapid test, supplied by authorized dealers. The majority of patients have addressed the laboratory following the indication of the General Practitioners, based on anamnesis data and clinical symptoms.

**Results:** Amongst the tested samples in children, 28 were positive representing 12.6%. For the age category between 6-14 years old, we encountered 14 positive cases. This fact can be explained by the sanitary conditions and hygienic measures in schools, a manageable and preventable situation.

**Conclusions:** Our results are in accordance to the results obtained in other regions of Romania, where prevalence was 18.20%, that means we have to focus more on the hygienic status of schools environment and also education in schools.

**Keywords:** Helicobacter pylori antigen detection, prevalence, children, school

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## A MODERATELY LOWER CARB DIET EFFICIENCY DURING ER+/PR±/HER2 BREAST CANCER CHEMOTHERAPY

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**Background:** Many breast cancer patients gain weight during chemotherapy potentially increasing recurrence, de novo carcinogenesis, all causing mortality and oncology specific mortality risks.

**Methods:** Thus, to test the efficacy of a moderately lower carb diet - based on eating only when hungry foods naturally high in protein, high quality fatty acids and carbohydrates, calcium, pre- and probiotics - we followed the body composition evolution of 46 chemotherapy patients

and of 50 patients 2 years after surgery. To prevent sarcopenia and to counteract the Warburg, reverse Warburg and Crabtree effects, we decreased the recommended percentage of carbohydrate intake from the common value recommended for general population – of 55-60% - to only 40%. We calculated portion size to reach a protein intake of 1.5 g/bodyweight, which meant for most patients a 25-30 g protein intake per meal. We measured their weight, body and visceral fat with a multi-frequency bioelectrical impedance scale initially and after 12 weeks, also waist and hips circumferences to validate it.

**Results:** Although after surgery patients obtained better results on all measured parameters, patients receiving chemotherapy also improved their body composition despite chemotherapy administration during the trial:  $1.611 \pm 2.89\%$ kg ( $p=0.005$ ),  $1.79 \pm 3.32\%$  body fat ( $p=0.006$ ),  $0.4 \pm 0.81\%$  visceral fat ( $p=0.012$ ) and had a  $0.29 \pm 0.4$  in the waist to hips ratio ( $p=0.001$ ).

**Conclusion:** A moderately lower carb diet is as effective for preventing sarcopenic obesity during chemotherapy as it is 2 years after surgery.

**Keywords:** chemotherapy weight gain, breast cancer, sarcopenic obesity, oncology nutrition

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## PSYCHOLOGY OF FOOD BEHAVIORS WITH OBEZOGEN RISK

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**Background:** Food behavior provides survival, health, harmonious development, and the energy source needed to conduct day-to-day activities. Moreover, the food and consumption have also acquired social, cultural, interpersonal and intrapersonal functions that mark pleasant events, socializing and interacting with friends, colleagues, family, trips to interesting and unusual culinary experiences. The presentation will identify and discuss the social and emotional factors at risk for obesity as well as the self-regulatory strategies for a healthy diet for children and adolescents.

**Methods and results:** The border between eating food as a way of meeting the energy needs of the body and constantly yielding to the temptations generated by the social environment or our emotional needs has become increasingly difficult to manage. We live in an obese environment where food behavior is easily transformed from a vitally important factor for health into a reactive one that puts us at risk of premature illness. We pend between food temptations and the effort to resist them, between standards of harmony and physical beauty and concern about our body image, between positive emotional states and dissatisfactions and disappointments that we want to compensate for. Thus, nutrition is transformed from a necessary, normal and pleasant activity into a subject relevant to psychology and adolescents are the most vulnerable to this.

**Conclusion:** Adopting a healthy eating behavior as they are constantly subject to temptations and pressures requires a high level of emotional and behavioral self-regulation. In the absence of effective self-regulation strategies, good information and intentions remain only ideologically.

**Keywords:** obesity, adolescents, food behavior, psychology

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## THE FOOD ROLE IN HELICOBACTER PYLORI INFECTION

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**Aim:** To identify the food behavior of Helicobacter Pylori (HP) bacteria carriers and methods to improve their status.

**Methods:** The prospective, observational study was conducted in the Hipocrat - Suceava Medical Analysis Laboratory on 40 subjects aged between 7 and 70, and was focused on establishing correlations between eating habits and unpleasant symptoms of patients, follow-up of subjects evolution after giving dietary recommendations, and results evaluation at 3 and 6 months, highlighting beneficial effects of foods and habits in relieving symptoms.

**Results:** The number of infected patients decreased as the quality index of the diet increased. Proper nutrition and healthy lifestyle have a favorable role in speeding up the healing process of Helicobacter pylori infection. Gastrointestinal techniques had an important role in relieving unpleasant symptoms, also an optimal vitamin C intake speeded up the healing process.

**Conclusion:** Rest, stress relieving and moderate physical activity are helpful in eradicating the HP infection. We recommend a few foods that can play an important role in fighting infection and improving symptoms, like: broccoli, carrots, zucchini, bananas, or chamomile tea.

**Keywords:** lifestyle, Helicobacter Pylori, diet

## OBESITY AND INTESTINAL MICROBIOM

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**Background:** Metabolic obesity causes an increased neuro-psychological risk with implications in socio-professional life of individuals and society. Dysbiosis is one of the incriminated causes of obesity, diabetes, cardiovascular and degenerative diseases. Two large groups of individuals have been described which, depending on the number of intestinal bacteria types and their colonies, may be more susceptible to the dysmetabolic pathology and thus to obesity: the group who have fewer healthy bacteria have a much higher risk of developing these diseases.

**Methods:** Research has shown that an individual remains the same bacterial species throughout life, but ranges between them and the pathological flora. Each individual comes with an important genetic dowry, and in addition to this, the first important events in his life, from natural birth, to breastfeeding, repeated antibiotic treatments, balanced and natural nutrition, will make their decisive mark on the structure of the personal microbe.

**Results:** Factors affecting the microbe can be food (unilateral diet), food allergens, infectious (bacterial, viral, fungal, toxic), heavy metals, alcohol, drugs, pesticides, food additives, parasites (giardia, oysters, tenia strongiloides) etc. The company's cost of treating complications and obesity-related illnesses first has to raise the interest of all the factors involved in preventing, early detection of obesity risk, integrative, multidisciplinary treatment to limit the process.

**Conclusion:** The common approach of such a case by diabetes specialists, dietitians, psychologists, physiotherapists and educators is the key to succeeding and limiting the occurrence of new cases at least for children.

**Keywords:** obesity, nutrition, microbiome, dysbiosis

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## EFFECTIVENESS OF MOTIVATIONAL INTERVIEW IN STIMULATING AND MAINTAINING ADHERENCE TO MEDICAL PRESCRIPTIONS IN UNDERPRIVILEGED PATIENTS WITH OBESITY

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**Background:** Our study included a total of 24 children diagnosed with obesity, boys and girls aged 7-17 years.

**Methods:** Our sample was distributed in two experimental groups: group 1 (Motivational Interview) where the patients received a total of 8 psychotherapy sessions over 4 months and group 2 (Control Group) whose patients did not have any form of psychological intervention.

**Results:** The Life Quality Assessment Questionnaire and patient weighing was performed at the pre-test and then at a 4-month post-test period, followed by a follow-up assessment at 2 months since the last measurement. We have identified a quality of life and a significantly greater weight loss in the patients in the experimental group in which the patients benefited from the 8 psychotherapy sessions compared with the subjects in the control group.

**Conclusion:** The study could help develop new test-tested, scientifically validated test batches that ease and standardize the work of the clinical psychologist, regardless of the geographical area in which they operate.

**Keywords:** Obesity, children, lifestyle, motivational interview

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## DIGITAL TRANSFORMATION OF ORGANIZATIONAL MODELS IN HEALTH CARE AND NUTRITIONAL SERVICES

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**Background:** Information technology and communications are nowadays priority topics of debate and action both in the theoretical and practical approaches. Significant efforts of investment are made in the private and public sector and many people are involved, but in this quest for the digital “glory” the meaning of organizational transformation is often left behind and the digital division arises. The aim of this study was to assess the digital readiness of actors involved in the Romanian health care system and to emphasize the opportunities of digital transformation within the sector.

**Methods:** We conducted structured interviews both with the representatives from companies acting in the health care services and experts, in order to learn more about their knowledge and experiences on the topic of digital business models. The purpose of interviews with experts representing IT solutions integrators, consultants, mobile solutions providers, was to receive feedback and evaluation from experienced trainers and consultants in business digitalization. The main focus was on areas of knowledge, attitude, information, motivation, needs for assistance and training requirements.

**Results:** There is often a problem of awareness and understanding the concept of business modelling, even for larger companies and digitalization is perceived mostly as a tool, rather than a strategic goal. Our respondents focused on specific IT&C solutions without a service management approach.

**Conclusions:** A training method based on coaching could bring the best results, and companies trainees must accept a longer process and tasks to do by their own.

**Keywords:** digital transformation, health care services, digital readiness

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## CONCOMITANT INFECTION WITH MEASLES VIRUS AND CYTOMEGALOVIRUS TO A CHILD WITH OBESITY – CASE REPORT

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**Background:** Obesity is a risk factor for infections and their severity. Measles, disease that can be prevented by vaccination, remains a major public health problem in Romania. The disease induces immune depression and can cause severe complications, especially in people at risk. Cytomegalovirus (CMV) infection is most frequently asymptomatic but it can cause severe illness like retinitis, encephalitis or hepatitis, especially in patients with immune depression. Our aim was to evaluate the evolution of measles and hepatitis due to CMV infection in a child with obesity.

**Methods:** We monitored the case of a 15-year-old child, female gender, from a locality with many cases of measles, with obesity grade I, hospitalized in the Clinical Infectious Diseases Hospital of Brasov by transfer from Clinical Pediatric Hospital for fever, cough, rash, lymphadenopathy and increased serum transaminases.

**Results:** Based on epidemiological, clinical, radiological (interstitial pneumonia) and laboratory (positive serological tests for acute CMV infection) data have been established the diagnosis: Measles complicated with pneumonia; Acute laryngitis; Cytomegalovirus mononucleosis with hepatitis; and Obesity. Treatment consisted in administration of antibiotic (Ceftriaxone), symptomatic medication, corticosteroids, liver protectors. Evolution was favorable, with gradual remission of symptoms.

**Conclusions:** Infections in patient with obesity can evolve with complications and it requires medical supervision and appropriate complex treatments.

**Keywords:** measles complications, cytomegalovirus infection, obesity

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## ARE HYPOCALORIC DIETS THE ONLY NUTRITIONAL APPROACH IN OBESITY?

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**Background:** Obesity is a complex, multifactorial disease characterized by excessive accumulation of adipose tissue as a result of a positive energy balance. Caloric restriction is the main evidence-based dietary intervention, but several mechanisms beyond caloric excess are involved in the pathophysiology of obesity and may influence results. The purpose of this paper is to review and analyze the literature and guidelines concerning the relationship between different types of hypocaloric diets and the impact on the main treatment objectives in obesity: weight loss, weight maintenance and prevention of weight regain.

**Methods:** Several nutrition interventions targeting obesity have been studied. The main categories are defined by the level of caloric restriction (low calorie diets, very low calorie diets) and macronutrient composition (including low-carb/ketogenic). Recent studies bring into light newer approaches such as meal replacement, intermittent fasting and modified fasting diets. Guidelines are available for appropriate prescription of different subtypes of diets.

**Results:** Low-calorie diets and very low calorie diets have a large body of evidence of efficacy and safety in obesity when prescribed in the context of a multidisciplinary approach. Different proportions of macronutrients in diet are accepted, including low-carb. Ketogenic diets and meal replacement therapy may be a viable option for a subset of patients. Few data are available regarding long-term impact of different subtypes of hypocaloric diets.

**Conclusion:** Several types of hypocaloric diets are acceptable as dietary approach in obesity, including newer, experimental methods. Long term data are needed to support a larger use in clinical practice.

**Keywords:** obesity, low-calorie diet, ketogenic, meal replacement, intermittent fasting

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## CHILDREN OBESITY AND DIABETES: PSYCHOLOGICAL FACTORS AND FAMILY RELATIONSHIPS

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**Background:** Recent studies indicated that the risk of obese children to be an obese adult, is very high (41%-83%), and it is known that the obesity is the most important factor for develop tip II diabetes. The child become obese in the family, so approach of a clinical case can not be done for an isolated independent individual. Some therapists are including in obesity therapy interventions like cognitive-behavioral modification therapy. Our aim was the identification of subjective barriers in obese children treatment and prevention of the relapse, in the light of dynamics of their family relationships.

**Methods:** It was a a review of the actual studies from the literature, as a starting point for an strategical plan of specific intervention and to structure an interview form, that can be use by specialists to collect essential data and increase therapeutic long-term succes.

**Results:** The subjective particularities of children and the dynamics of the families relationships can elucidate better the therapeutic barriers, the role of the food, the rules, habits, or poor awareness of the risk of diabetes. Into the family with an obese child or adolescent, the most serious issue is a parent-child pathological relationship. Hyper-protection, possessiveness, non-realistic expectations, abuse, social isolation, overcontrol are some of the symptoms of the circularity.

**Conclusion:** Integration of systemic family psychological methods is a proper approach in obese child treatment, can guarantee the elucidation of the real causes that produced the symptom, and is a way to prevent chronic illness like diabetes.

**Keywords:** Adolescence, child, diabetes, obesity, psychological factors

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## UPDATES IN OBESITY SURGERY

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**Background:** Obesity is no longer an individual problem related to physical appearance or emotional impact. It is now defined as a disease accompanied by multiple comorbidities such as type 2 diabetes, cardiovascular and cerebral disease, high blood pressure, respiratory conditions and osteo-articular impairment, all of which generate various degrees of disability and considerably shorten life expectancy. The purpose of this paper was to review the latest novelties in the various techniques of bariatric surgery.

**Methods:** We analyzed the results obtained with RGL-Gastric Sleeve (GS) surgery on a group of 94 patients operated in the Surgical Clinic of Mures County Clinical Hospital (January 2013 - August 2017), with the RGL (Gastric Sleeve) method, of which 59 responded to a questionnaire on the evolution of weight and obesity comorbidities (high blood pressure, hyperglycemia, type 2 diabetes, hyper-cholesterolemia, hypertriglyceridemia and sleep apnea).

**Results:** In addition to weight loss, the study also found: a return to normal blood pressure values in 11 of 35 cases ( $p = 0.0002$ ); in 17 of 20 patients with hyperglycemia type 2 diabetes blood glucose levels returned to normal ( $p < 0.0001$ ). Statistically significant **Results** were also obtained in patients with hypercholesterolemia/ hypertriglyceridemia and sleep apnea ( $p < 0.0001$ ). The analysis of the weight gaining process has consistently shown a lack of compliance to the physical and dietary guidelines.

**Conclusions:** The various techniques of bariatric and metabolic surgery are constantly being refined and may be adjusted on a per case basis. In addition to weight loss, RGL significantly alleviates comorbid conditions.

**Keywords:** obesity, gastric sleeve surgery, diabetes, compliance

## ASSESSMENT OF NUTRITIONAL STATUS AND EATING HABITS FOR STUDENTS FROM GRADES I-VIII

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<sup>1</sup>Pronutrition Association

**Background:** Child's nutritional status reflects welfare and is based on socio-economic conditions and the environment in which they live and develop. The existence of nutritional deficiencies affect health, growth and further development as a young adult. Creating early healthy eating habits is the most effective method of keeping long-term health. Our objective was to evaluate of the nutritional status of schoolchildren, identification, analysis and correlations between dietary intake, habits and nutritional status.

**Methods:** The study was conducted during November-December 2014 on a sample of 489 students from classes I-VIII, aged 7-15 years old, from urban areas of Mures County. The methods used were questionnaires and assessment of student anthropometric parameters (height, weight percentile, % body fat).

**Results:** 29.2% of the children were overweight, with an increased share of obese boys versus girls (8.3% versus 3.6%). We identified a low consumption of whole grains, dairy products, meat and an increased consumption of ready meals and pastries. 52.1% of are let by parents to choose what they eat. An important (62%) of parents who have children with weight problems are concerned about their current nutritional status and want to make changes in their diet in the future, and 26.1% of them would ask for a Dietician help.

**Conclusion:** Parents serve as a model for child's eating habits and school period is most suitable for learning and understanding what a healthy diet means. It is important to involve dietitians in nutrition education programs, nutrition workshops for children and parents, as well as nutritional counseling.

**Keywords:** nutrition, food behavior, student

## THE KETOGENIC DIET – A CHALLENGE FOR HEART, BRAIN AND HEALTH (A NECESSARY SET-UP)

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**Background:** Ketogenic diet known as a low-carbohydrate diet, in which the body synthesizes ketones in liver to be used as a source of energy, has been known for several years, being highly controversial and „made to the wall” by the media leaving from the premise of increased cardiovascular risk due to high fat intake, which inevitably lead to increased cholesterol!

**Methods:** We will present data, facts and studies to support the health benefits of low-carbohydrate and ketogenic diets from the latest research results.

**Results:** The proven benefits of the ketogenic diet are: First, a relatively rapid and significant weight loss is observed. In addition, there is a definite benefit in degenerative neurological diseases such as Dravet epilepsy, Parkinson's disease. Due to the decrease in body weight, there is also a reduction in blood pressure. By lowering carbohydrate intake, the serum glucose level decreases and has a beneficial role in diabetes. With all these benefits, ketogenic diet is not a therapeutic but has a role in therapy as an adjuvant in reducing risk factors for metabolic and cardiovascular disease as well as in relieving symptoms in degenerative neurological diseases.

**Conclusion:** Ketogenic diet is undoubtedly an effective method that helps in weight loss. In addition, another proven benefit is the improvement of cognitive functions with direct therapeutic implications in Alzheimer and Parkinson's disease. It should not be forgotten that the ketogenic diet, by turning the energy metabolism from carbohydrates to fats, allows access to a fairly large amount of energy, which are the fats.

**Keywords:** ketogenic diet, low-carb diet, weight loss

## DETECTION OF FRUCTOSE INTOLERANCE AT CANCER PATIENTS

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**Background:** Food intolerance can result from the absence of enzymes needed to digest a food substance, as in fructose intolerance the aldolase B deficiency. The fructose - 1 phosphate accumulation can effects gluconeogenesis and regeneration of adenosine triphosphate (ATP). Food intolerance is present with symptoms affecting the skin, respiratory tract, gastrointestinal tract. Treatment of food intolerance depends on the stage of the disease and is based on personalized diet. The aim of this study was to detect if cancer patients have food intolerance using Food Intolerance Questionnaire and laboratory tests.

**Methods:** A number of 120 cancer patients were interviewed using a standardized Food Intolerance Questionnaire and also we collected samples of their morning spot urine. The ages were between 21 to 80 years old. Fructose intolerance was diagnosed with Benedict-Barfoed-Seliwanoff reagents conducted from the urine samples.

**Results:** The results indicated that all cancer patients shown food intolerance to one or more type of meat, and 83.88% had fructose intolerance. According to the results of questionnaire evaluation, the most frequently food intolerance was lactose (at 83.3%) followed by yeast in 66.6%, corn in 52% and egg in 42% of the patients.

**Conclusions:** Our study showed that cancer patients have some kind of food intolerance, such as fructose-, lactose-, yeast-, corn-, and egg intolerance. Taking in consideration this research it is highly important to detect food intolerance in cancer patients during and after treatment.

**Keywords:** food intolerance, fructose intolerance, cancer causing foods

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## ANTIMICROBIAL RESISTANCE FOR STAPHYLOCOCCUS AUREUS NASAL STRAINS ISOLATED DURING 2010-2016 IN SUCEAVA, ROMANIA

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**Aims:** To identify the ratio for nasal carriage of Staphylococcus aureus in general population; to report data on resistance pattern of the studied strains.

**Methods:** Between October 2010-August 2016 in the Hipocrat Clinical Laboratory we processed 471 nasal swabs according to standard procedure; we isolated 175 S. aureus strains. Sensitivity testing was done by disk diffusion method against the following agents: Penicillin, Cefoxitin, Erythromycin, Clarithromycin, Azitromycin, Tetracycline, Sulfamethoxazole/Trimethoprim, Gentamicin, Tobramycin, Amikacin, Ciprofloxacin, Levofloxacin, and Ofloxacin. Interpretation was done according to Clinical and Laboratory Standards Institute (CLSI) criteria.

**Results:** Almost all the isolates were Penicillin resistant (98.2%), macrolide resistance was encountered in 59.4% of strains, quinolone resistance in 6.28%, Gentamicin 3.42% while for Sulphamethoxazol/Trimetoprim and Tetracycline, resistance ratio was 24.57% and 37.12% respectively.

**Conclusion:** Resistance ratio for Staphylococcus aureus nasal isolates to anti staphylococcal agents is high-with no predictable trend for the next period. The best way to prevent its increase is prudent use of antibiotics and topic application for nasal carriers. Also the health and nutritional status of these patients is very important.

**Keywords:** S. aureus, nasal isolates, resistance ratio, nutrition

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## LIFE STYLE AND NUTRITION - MODIFIED RISC FACTORS IN CEREBROVASCULAR DISEASES

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**Background:** As estimated by the World Health Organization, most adults in Europe, including the Republic of Moldova, have an inadequate diet and a sedentary lifestyle that causes energy disturbances, subsequent damage of vessels and the onset of cerebrovascular disease.

**Methods:** 1012 individuals participated in the current study: experimental group - 500 patients with stroke, control group - 512 relatively healthy individuals. The nutritional factor and lifestyle peculiarities were assessed on the basis of a lifestyle interview.

**Results:** We found that 23.2% of patients with stroke until the event have physical activity less than one hour/day (control group - 2.4%), 35.3% of the patients were obese (control group - 17.2%), 12.3% of the patients used very few fruits and vegetables in their daily menu (the control group - 10.4%), 44.0% preferred fatty meat (control group - 29.4%), 47.3% prefer salty foods. In the experimental sample 45.9% of investigated patients recognized that they consumed two times more food compared to relatively healthy people.

**Conclusion:** Our results indicated that inadequate diet along with sedentary lifestyle may induce severe cerebrovascular pathologies, and the promotion of active lifestyle and proper nutrition should be started as early as possible in childhood.

**Keywords:** sedentariness, obesity, unhealthy eating, cerebrovascular disease

## CELIAC DISEASE - DIFFERENCES BETWEEN REAL INCIDENCE AND REPORTING

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**Background:** Autoimmune diseases have become a major medical problem of recent years, and Celiac disease is an autoimmune disease model. Gluten is a protein found in wheat, rye, barley, but can also be hidden in products such as blue mold cheese, soy sauce, coffee with various flavors, beer or any bakery products.

**Methods:** We evaluated the knowledge and attitude towards gluten-free products offered in Romania, based on a validated questionnaire applied in 2017 on 150 Romanian group of patients.

**Results:** There is a great difference between the prevalence of celiac disease reported by various public health centers in the world, the disease being underdiagnosed. The prevalence in Europe was estimated from 1:300 to 1:5000 individuals, is a common disorder in North Africa, the Middle East and India, but it is considered extremely rare among the inhabitants of Africa, Japan, and China. In Romania the prevalence is around 2%, and recent population screening studies suggested that prevalence may be higher (1:100), more common in patients with autoimmune diseases.

**Conclusion:** Adherence to lifelong gluten-free diet ensures rapid favorable clinical evolution. The long-term benefit is avoiding intestinal complications, infertility, neuropsychiatric retardation, autoimmune diseases, and the risk of malignancy (intestinal lymphoma, intestinal adenocarcinoma, esophageal and intestinal cancer). Also, intolerance to gluten is related to metabesity epidemic and it has to be a trigger for personalized diets.

**Keywords:** celiac disease, gluten, bread

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## OBESITY IN ENDOCRINE PATHOLOGY

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**Background:** Overweight and obesity, especially in children, is becoming a public health issue in developing countries, including Romania. Its importance derives from the several long term complications as metabolic syndrome, type 2 diabetes mellitus and cardiovascular diseases. Although most of them are based on altered physical and dietary behavior patterns (as sedentariness and high carbohydrates intake), part of them are related to endocrine disorders, which induce or at least promote obesity. Our aim was to identify the risk factors for childhood obesity in endocrine pathology, and the relationship between them.

**Methods and results:** The research is based on a systematic review focused on endocrine pathology associated with obesity, particularly in children. We identified multiple endocrinopathies that interfere, mediate or trigger the pathways of obesity, from genetic diseases as Prader-Willi or Bardet-Biedl syndromes, to metabolic syndrome, hypothyroidism, autoimmune thyroid diseases, Cushing syndrome, polycystic ovary syndrome.

**Conclusions:** Obesity is a multifactorial disorder that affects the healthy population as a primary condition, but it can be secondary to other pathologies, including endocrinopathies, which associate it in a significant rate. It is important to establish the pathogenic pathways of obesity in endocrine diseases, in order to have a good outcome in our therapeutic intervention.

**Keywords:** overweight, obesity, endocrine disease.

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## NUTRITIONAL VALUE'S OF KINDERGARTEN'S MENUS RELATED WITH GROWTH PARAMETERS OF PRESCHOOLERS FROM TIRGU MURES TOWN, ROMANIA

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**Background:** Preschooler's diet is one of the basic elements in ensuring a balanced statural-ponderal development and normal blood pressure. Our aim was to analyze the link between the menus from kindergartens with extended schedule and children statural-ponderal development and blood pressure levels.

**Methods:** A retrospective observational study was carried out in 2017 on a sample of 300 subjects, aged between 33 and 80 months, enrolles in 5 kindergartens from Tîrgu Mureş town. The obtained data (body mass index, blood pressure, weight, height) were reported to international recommendations (percentiles).



**Results:** There were no significant associations between age and body mass index ( $p=0.462$ ). The level of systolic blood pressure was significantly correlated with protein intake ( $p<0.0001$ ,  $r=0.093$ ), carbohydrate intake ( $p<0.0001$ ,  $r=0.657$ ) and calories consumption ( $p<0.0001$ ,  $r=0.417$ ). Diastolic blood pressure was significantly associated with the intake of proteins ( $p=0.008$ ,  $r=0.145$ ), lipids ( $p<0.0001$ ,  $r=0.271$ ), carbohydrates ( $p<0.0001$ ,  $r=-0.362$ ) and calories ( $p=0.009$ ,  $r=0.143$ ). There were also significant differences between the blood pressure of children from a kindergarten where the menus were controlled by a dietitian/nutritionist and the values obtained from children where the food plan is established by a non-specialized person ( $p<0.0001$ ).

**Conclusions:** The unbalanced diet from kindergartens with extended schedule will have a bad influence upon the growth parameters of preschool children and their blood pressure as well.

**Keywords:** kindergarten, blood pressure, body mass index, diet, children

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## LIFESTYLE PARAMETERS DURING PREGNANCY AND ANTHROPOMETRIC DATA OF ROMANIAN NEWBORNS BASED ON ETHNICITY

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**Aim:** To study the possible associations between ethnicity and lifestyle characteristics during pregnancy in a Romanian pregnant women from Mures County, with emphasis on the maternal diet, and the anthropometric characteristics of newborns.

**Methods:** It was a cross-sectional study, made in 2014, based on monitoring of 1275 pregnant women from three Obstetrics-Gynecology clinics from Tirgu-Mures city. A validated questionnaire has been applied while the anthropometric characteristics of the newborns were collected from their medical files, at birth.

**Results:** The ethnicity distribution in our study group was: 64.07% Romanians, 30.50% Hungarians and 5.41% Romani. We had registered deficiencies in consumption for: intake of dairy products was found in the Romani women (69.50%), of red meat in Romanians (23.20%), of fish and eggs in Romani (99.30%) and Hungarian women (89.6%), of vegetables in Hungarian (93.80%) and the Romani women and of whole grain cereals in Romanian (93.40%) and Hungarian (95.50%) women. Tobacco and alcohol consumption during pregnancy were significantly higher within the Romani pregnant woman ( $p<0.0032$ , respectively  $p<0.0169$ ). Weight for age and length for age scores at birth were significantly reduced in Romani male newborns ( $p<0.0328$  and respectively  $p<0.0001$ ). Premature birth had a higher frequency in the Romani women group, compared to the Romanian and Hungarian ones ( $p<0.0013$ ).

**Conclusion:** Newborns with reduced weight at birth and premature delivery are more frequent in the Romani pregnant women group. A proper health education program adapted to the Romani ethnic minority's particularities should be included in the national strategy programs for preventing unhealthy lifestyle behavior, especially during pregnancy.

**Keywords:** pregnancy, lifestyle, ethnicity, newborn

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## THE ASSOCIATION BETWEEN BODY MASS INDEX, SELF-ESTEEM ATTITUDE AND ACADEMIC PERFORMANCE

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**Background:** Our aim was to study the association between Body Mass Index (BMI), self-esteem attitude and academic performance in Suceava students.

**Methods:** Information was gathered in 2017 from 70 students, from 9<sup>th</sup> to 10<sup>th</sup> classes, attending a technical high-school from Suceava. Students were within the 15 to 17 years (mean age 16.07+/-2.1). We assessed the information, using a anonymous questionnaire with ten self-esteem items, BMI data, and their academic performances in the last year. As an index of academic achievement of students, grade point average (GPA) was recorded from the school record of the last year. The perception about global self-worth was measured using items adapted by Rosenberg self-esteem scale RSE.

**Results:** After BMI calculation and conversion to sex and age specific percentile values, we identified normal values in 57.2% of subjects followed by 28.5% of subjects overweight. Values within the range of obesity were found in 5.7% cases, and 8.6% subjects underweight. Regarding the self-esteem, in the normal weight group the mean self-esteem scale score is 25.2 (SD=4.1) followed by the mean scale score for underweight students 24.8 and overweight students 13.6. Our data indicated a significant negative partial correlation between bodyweight

and academic performance (GPA normal weight=8.3 GPA overweight=6.5), obese students were performing worse in communication studies than normal weight peers.

**Conclusions:** These findings demonstrate an association between BMI, self-esteem and academic performances. Increased body weight is associated with poorer academic performance. Among students, higher BMI than normal was associated with lower self-esteem score.

**Keywords:** Body Mass Index, academic performance, self-esteem.

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## EMOTIONAL PROCESSING: IMPORTANT FOR PHYSICIAN - PATIENT INTERACTION

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The presentation will focus on two important aspects of emotional processing, both with significant impact on physician-patient interaction.

First of all, cognitive distortions and their impact on the way the patient interacts with the doctor in general and the information specifically presented by him will be discussed. There will be a series of such cognitive distortions that are likely to occur in patient processing, with the most probable outcomes in the relationship with the doctor and the treatment.

Secondly, the concept of emotional intelligence, the way in which the constructs associated with this construct contribute to information processing and patient behavior, and obviously the way this concept can be used in physician-patient interaction, to ensure adherence to obesity treatment.

**Keywords:** emotions, psychology, patient, behaviour

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## THE ROLE OF NUTRITIONAL THERAPY IN CHILDHOOD OBESITY

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**Background:** Obesity is the most common nutritional disease with ever increasing prevalence. The World Health Organization points out that there are 250 million obese people worldwide, of which 22 million are children under 5 years of age. Causes of obesity are multiple: on the background of genetic predisposition, the current lifestyle (excessive consumption of calories, sedentarism) secondary to the contemporary obesogenic environment.

**Methods:** Childhood obesity is a risk factor for cardiovascular disease, type 2 diabetes, respiratory, osteoarticular, psychic complications. Child obesity therapy needs to be individualized and ensured by a multidisciplinary team. Nutritional therapy is the essential therapeutic remedy.

**Results:** Hypocaloric and hypoglycemic weight loss regimens are not recommended for the child and adolescent because the caloric intake has to provide normal growth and development, which is why certain minimum calorie intake values of the diet can not be exceeded: 110 calories/bodyweight/day at infant under 6 months and 90 calories/bodyweight/day between 6-12 months, 60 calories/bodyweight/day of the ideal age weight for pre-school and school children under 12 years of age, in prepubertal subjects the gradual reduction of calorie intake by 5-6 %, and in puberty by 7-8%.

**Conclusion:** Obesity management is one of the most complex in medical practice because obesity is a chronic illness that involves a lasting intervention and optimizing lifestyle remains the main prophylactic and therapeutic intervention in child obesity management.

**Keywords:** obesity, nutritional therapy, child

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## THE ROLE OF CLINICAL DIETETIC THERAPY FOR OBESE PATIENTS: ADVANCES IN THE TREATMENT OF OBESITY

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**Background:** Recent advances in the research and treatment of obesity are patient centered and aim to improve patient access to nutrition services through coordination with the patient's primary medical team. Inter-professional nutrition teaching is paramount to cultivate appropriate and individualized treatment of obesity to empower the medical team to provide the foundation of nutrition education, novel behavior change methods and referrals. The dietitian is an ideal partner for providing individualized nutrition education and follow up.

**Method:** Multiple efforts established to engage a medical health care team that included primary physician, nurse, psychologist and dietitian in order to provide a needs assessment, in-depth intervention with medical team, implementation of tailored lesson plans and referrals to appropriate community programs for long term maintenance.

**Results:** A strong association exists between obesity and obesity treatment with novel behavior change methods along with long-term maintenance, especially for young adults. Managing nutrition education support of these patients is often challenging and requires collaborative effort of the medical health care team. A medical health care team identified a need for nutrition intervention and created a protocol for the treatment of obesity.

**Conclusion:** These advances in the treatment of obesity offered insights into effectively utilizing a medical health care team collaboration and behavior changes learning's, in this case through 1) awareness and support from a medical professional practice team and 2) behavioral change advocacy project, which included a social media platform as well as 6 months to 24 months nutrition/health coaching monitoring.

**Keywords:** obesity, behavior change, nutrition education

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## THE NUTRITIONAL SUPPORT FOR THE ONCOLOGY PATIENT – A MULTIMODAL APPROACH (EDUCATIONAL, NUTRITIONAL, PSYCHO- AND KINETOTHERAPEUTICAL)

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**Background:** The cancer-related weight loss can progress to cachexia. In Romania, the oncology patient lacks the nutritional support. The intervention's aim was to decrease the weight loss.

**Methods:** The study (prospective, quantitative, no control group) involved 71 adult cancer patients cared for by HOSPICE Casa Sperantei and assessed the influence of a multimodal intervention (accurate nutritional information, adequate energetic and nutritional diet, supplements use, symptom treatment, cognitive-behavioral therapy and physical exercise) on their weight. Data were analyzed for 50 subjects (70.24% of initial group). Questionnaires and scales were used.

**Results:** Although the minimal weight gain (avg. 0.3 kg), the increase was statistically significant ( $P=0.03$ ). The gain was higher for males (1 kg vs. 0.5 kg,  $P=0.06$ ). Positive correlations were found for meals number/frequency (starts at 6 hours/4 daily meals,  $P=0.001$ ), cold food (0.4 kg,  $P=0.046$ ), accompanied eating (0.5 kg,  $P=0.001$ ), energy food content – over 1200 kcal/day (0.3 kg,  $P=0.0001$ ), nutritional supplements (daily intake over 150 Kcal lead to weight gain 0.5Kg,  $P=0.0001$ ), food supplements [ $\Omega 3$  FA (0.4 kg,  $P=0.039$ ), BCAA (0.6kg,  $P=0.042$ )], increase of daily protein (0.2 kg,  $P=0.02$ ), diet diversifying (0.44kg,  $P=0.03$ ), symptom decrease [absence of pain ( $P=0.001$ ), nausea and vomiting ( $P=0.027$ )], increased number of drugs ( $P=0.0000$ ) and physical exercise ( $P=0.003$ ).

**Conclusion:** The nutritional support for the cancer patient should be started as soon as possible after the diagnosis and provided by multi-disciplinary teams.

**Keywords:** nutritional support, cachexia, cancer, palliative care, HOSPICE

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## ANTHROPOMETRY VERSUS BIOELECTRICAL IMPEDANCE ANALYSIS IN ASSESSMENT OF BODY COMPOSITION

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For long time, the collection of anthropometric data has been the only tool available to describe the growth or nutritional status of an individual. Applied to populations, anthropometry has made possible to develop reference curves. Now, several methods with advantages and limitations are available for evaluation of body composition as an indicator of nutritional status. There are some criteria that determine the choice of working methods: the price, the stress and danger for the subject, the time necessary to obtain the information, the accuracy. In our study we analyzed these methods and their usefulness for individual nutritional assessment or epidemiological studies. We discussed the validity of anthropometric measures and the benefit of bioelectrical impedance analysis for more comprehensive measurements. Comparative with adults, the interpretation of body composition data in children and adolescents is different. On the other part, this interpretation have to take into account gender, ethnicity, and hormonal status.

**Keywords:** nutritional status, body composition, methods of assessment, childhood

## ASSESSMENT OF THE NUTRITIONAL STATUS OF CHILDREN FROM BUCHAREST CITY DURING THE LAST FOUR YEARS

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**Aim:** Our study tried to assess the weight-wise development of pre-school and school children's in Bucharest, between 2012-2016.

**Methods:** Weight measurement were performed during the periodic and balance medical examinations for the preschool children and school-aged children in the first year of school, the 4th, the 8th, the 12th year of study and in the second year of vocational school.

**Results:** The disharmony by overweight in Bucharest was 59.3% in 2012, risen at 66.4% in 2014 and decreased in 2016 at 55.77%, with good results. Disharmony by weight loss have risen from 40.7% in 2012 to 44.23% in 2016. The Health Behavior in School-aged Children study (HBSC) in 2014, made under the auspices of the World Health Organization, Regional Office for Europe indicate that in Romania, in 2014, a percentage of 26,6% of boys and 11,8% of girls aged 11-15 years old are overweight and / or obese, and Bucharest has twice the national frequency.

**Conclusions:** During the 4-years study period, disharmony by overweight was superior to disharmony by weight loss and there is a reduction in the ratio of disharmony by weight gain to disharmony by weight-loss in all age groups, for both genders.

**Keywords:** children, weight, nutritional status

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## CHANGING DIETARY HABITS AFTER ACUTE CORONARY EVENTS

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**Background:** We proposed to assess dietary habits in patients admitted with ACS (acute myocardial infarction STEMI and NONSTEMI), at the Cardiology Clinic of Tirgu Mures County Emergency Clinical Hospital, as well as the usefulness of the recommendations of the specialist for lifestyle.

**Methods:** There were included 50 consecutive patients with ACS (22 STEMI and 28 NON-STEMI), 32 men and 18 women, with an average age of 59+/-11 years. At the consultation we applied a questionnaire with 106 questions about their food behavior.

**Results:** Most patients were sedentary (61%), consuming high-fat foods (77%), high salt food products (58%), low fiber (57%) and 46% were active smokers. Percutaneous coronary revascularization with stent implantation was performed in 80% of cases and 20% received conservative treatment. At the 30-day follow-up, patients were again subjected to the same standardized questionnaire for assessing dietary habits. It was noted that life-changing recommendations had favorable influences on general patient status, systolic blood pressure, heart rate, body mass index, total cholesterol and triglycerides, respectively in terms of improvement in absolute values, reaching the statistical significance threshold ( $p < 0.01$ ) in all categories. There was an 83% adherence for medical and lifestyle recommendations.

**Conclusion:** Comprehensive dietary changes in association with weight loss immediately after IMA can modulate lipoproteins in the blood and can significantly reduce immediate complications after IMA. Diet recommendations have greatly improved adherence to treatment and have altered the lifestyle of the patient with ACS, who will benefit from long-term nutrition education.

**Keywords:** diet, acute coronary, lifestyle

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## PALLIATIVE CARE STANDARDIZED CURRICULUM – ERASMUS+ PROJECT: STRATEGIC PARTNERSHIP - TRANSLATING INTERNATIONAL RECOMMENDATIONS INTO UNDERGRADUATE PALLIATIVE CARE CURRICULUM (EDUPALL)

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**Background:** In the context of a population of higher life expectancy but experiencing chronic progressive illness, future physicians need to be educated appropriately to the needs of these patients, requiring palliative care to improve uncontrolled symptoms, psychosocial and spiritual suffering, so as to benefit from improving the quality of life. The aim of this project is to develop a standardized palliative care curriculum at the undergraduate higher medical education level, based on the recommendations of the European Association of Palliative Care (EAPC) and teacher training.

**Methods:** The projects programme includes: curriculum developing, materials for academic staff to support the theoretical/practical activities, developing interactive teaching / learning methods, using technology in the educational process, mentoring students and an innovative assessment process. This curriculum will be piloted in four Romanian university centers (Braşov, Tîrgu-Mureş, Timişoara and Iaşi) and two university centers from Ireland.

**Results:** We hope that all the other universities in the country, as indirect beneficiaries, will be involved in the implementation of this curriculum, given that the new quality standards in higher medical education ARACIS state that in the next five years all the universities should include palliative care as a compulsory discipline in the curriculum of medical and nursing students from undergraduate level.

**Conclusion:** Thus, by successfully running this project, a unitary curriculum at national level would be created to provide students basic knowledge in palliative care and to be a model for other countries in the region.

**Keywords:** palliative care, cancer, nutrition,

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## IS THE INTERNET THE RIGHT PLACE TO LOOK FOR INFORMATION ON CHILDHOOD OBESITY?

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**Background:** The Internet has become a major and affordable source of health-related information. The quality of information affects not only the users' knowledge, but also their attitudes, and decisions regarding treatment procedures. The goal of the study was to assess the completeness and accuracy of the information regarding childhood obesity on the Romanian and Hungarian websites.

**Methods:** The cross-sectional study included 20 Romanian and 20 Hungarian websites listed on the Google search engine's results pages. The search was conducted using “obezitate copii” and “gyermekkori elhízás” (“childhood obesity”) as query terms. Each website was rated for completeness and accuracy by two independent evaluators observing a common set of detailed instructions. Completeness and accuracy scores were computed on a scale ranging from 0 to 10 in order to facilitate comparison within the sample and for ease of interpretation.

**Results:** The mean completeness score was 2.5 (SD 0.9) for the Romanian websites and 2.5 (SD 1.2) for the Hungarian websites. The mean accuracy score was 8.7 (SD 0.7) for the Romanian and 6.2 (SD 1.0) for the Hungarian websites. While there was no difference between the two languages regarding the completeness scores, the Romanian websites rated significantly higher on the accuracy scores ( $p < 0.0001$ ; 95%CI: 1.9-3.1).

**Conclusions:** Both Romanian and Hungarian websites had a very poor coverage of the investigated topic. The accuracy of the information, as defined by the authors, was good on the Romanian and modest on the Hungarian websites, which rated significantly lower.

**Keywords:** childhood obesity, internet, quality of health-related information

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## VIRAL INFECTIONS AND APITHERAPY IN PRESCHOOL CHILDREN

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**Background:** Our aim was to apply, monitor and evaluate an intervention on a sample of kindergarten children from Mures County, by administering an apiarian cocktail consumption.

**Methods:** The methods used were: the questionnaire-based survey and experimental method, with the permission of the Ethics Commission of our university. The experimental method was based on the administration of a cocktail made with bee products twice a day, before breakfast and lunch, applied on a group of 19 children during 6 months (December 2016-June 2017). We used also a lifestyle questionnaire-based survey, to the parents in three steps: at the beginning, after 3 months and at the end of our study.

**Results:** 77.7% of monitored children did not have allergies, one has egg allergy, one has atopic dermatitis and one was allergic to propolis. 83% of children consumed the product. Frequency of viral diseases decreased after bee products treatment, from 6 to 1, 61.1% were not ill at all of laryngitis, and the number of those who were sick only 2 times fell from 6 to 0. 67% of children's parents who took the cocktail thought that it had a good effect on the immunity system, and 11% of them thought that it had no effect. Our data showed that the impact of our bee product treatment was positive, and it was an accessible and easy to use intervention.

**Conclusion:** The strengthening of the immune system is important for small children, tahts why a healthy diet, physical exercises, clean air, and food supplements (bee products), overall a healthy lifestyle.

**Keywords:** bee product cocktail, community intervention, immunity, children

## ASSESSMENT OF NUTRITION STATUS OF YOUNG PEOPLE VIA BODY MASS INDEX

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**Background:** The main purpose of this study was to assess the nutritional status based on body mass index among the young students from two cities: Tirgu Mures and Cluj Napoca.

**Methods:** Prospective observational study conducted through an online Google Forms questionnaire, consisting of 15 items, was distributed on the Facebook Social Network in groups of students of different university institutions in Tirgu Mures and Cluj Napoca. The questionnaire included questions about: anthropometric data, smoker status, the frequency of consumption of fruits and vegetables, alcohol, fast food and high processed food.

**Results:** Young people from urban area were 89%, the mean age was 24.2+/-4.8 years old, and 60.68% of the evaluated group (n=697) were females. 60.4% were within the normal range of Body Mass Index (BMI), a share of 27.11% being overweight, and 2.86% had stage I obesity. Of the total group, half declared themselves like being smokers (49.3%), 31.6% of which being overweight; 42.11% of the overweight people consumed alcohol more than 3 times/week, and only 55.6% of the total sample said they used to eat at least one fruit per day, far too less than requirements.

**Conclusions:** There is a significant proportion of young students currently presenting nutritional health risk factors and a high BMI, requiring a proper strategy for school programs regarding the prevention of lifestyle risk factors.

**Keywords:** body mass index, nutritional status, young people, obesity

## DIETARY APPROACHES TO MEET UNREALISTIC WEIGHT LOSS EXPECTATIONS IN OBESE PATIENTS

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**Background:** Obesity reached epidemic proportions and is a strong risk factor for a number of cardiovascular and metabolic disorders such as hypertension, type 2 diabetes, dyslipidemia, atherosclerosis and also certain types of cancer. Despite the constant recommendations of different organizations and health professionals about the importance of weight control, this goal often fails. A big obstacle to success is often the unrealistic expectations of obese patients about the rate at which they can lose weight.

**Methods:** We evaluated the expectations of 30 obese patients about how fast would they reach their dream weight. We have tried to determine the sources for these expectations. The diets applied to obese patients were of three types: 1 low-calorie diet (60% Carbohydrates, 25% Fats, 15% Protein), low-calorie and low-fat diet (65% Carbohydrates, 10% Fats, 25% Protein), and Ketogenic diet (5% Carbohydrates, 70% Fats, 25% Protein).

**Results:** 68% of our patients had unrealistic expectations (4-6 kg/week) regarding the rate of fat loss and they needed extra attention and advices. Unrealistic expectations are fueled by the fitness industry and the online environment. Ketogenic diets produce results closest to patient expectations, and are a useful tool in keeping patients.

**Conclusion:** Dietitians are meeting in private practices a high frequency of patients with obesity along with other co-morbidities and need to know and apply the best methods to manage this public health burden worldwide.

**Keywords.** obesity, diet, obesity, ketogenic diet

## CONSIDERATIONS REGARDING NUTRITION BEHAVIOR OF PERFORMANCE GYMNASTS TEAM

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**Background:** During periods of high-intensity training, young athletes need to consume adequate energy in order to maintain body weight and health, to maximize training effects and to assure resources for body development. The purpose of this study was to evaluate the nutritional status of the aerobic gymnastics team in order to identify inappropriate nutritional intake and to optimize food ratio.

**Methods:** The nutritional status of 25 girls, between 8-18 years old, has been evaluated by their body mass index, also their food intake and eating behaviors by a 15 items questionnaire.

**Results** showed that 33.3% of the subjects between 8-14 years old and 20% of those between 14-18 years old were underweight. An important aspect of this group of athletes was the wrong choice of food at the table before training, with 56.2% of them consuming mainly glucose from foods with high glycemic index. A positive finding was the evaluation of post-workout responses, where 95% of athletes indicated consuming of high-glycemic foods. Concerning dinner meal choices, most athletes consumed adequate food, but some of them also consumed chocolate and carbonated beverages.

**Conclusion:** The solution could come through the education of sportsmen and / or parents / family in the nutritional field, so that each of them can adapt their diet to individual needs, making right choices to increase their sporting performance.

**Keywords:** food intake, eating behavior, gymnast

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## PLATFORMA NUTRITIO - THE ADVANTAGES OF USING A DIGITAL PLATFORM FOR EFFICIENCY OF NUTRITIONAL ACTIVITY

Nicolae Laurentiu<sup>1</sup>

<sup>1</sup>Nutritio – Nutrition Virtual Assistant

**Background and methods:** This presentation examines some processes in the work of a Nutritionist/Dietitian who can be optimized through technology, focusing on the practical utility of Nutritio - virtual assistant for nutrition.

**Results:** Our team will focus on some traditional medical practices compared with the technological way of working and the following advantages are highlighted: reducing the time needed to achieve a personalized nutritional plan, eliminating manual calculations and increasing precision by using calculated platform totals, making communication more efficient with the patient outside the consultation, efficient collection of patient data and use of data to improve the real-time nutritional plan and statistical data.

**Conclusion:** In Digital Era, for Dietitians and also for general public and the community it is important to have a program, a soft, to interconnect with, and to have easy acces to data regarding proper evaluation of nutritional status and food composition.

**Keywords:** obesity, online database, nutritional status, virtual assistency

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## EVALUATION OF DIETARY HABITS OF PATIENTS WITH DIGESTIVE ACCUSATIONS PRESENTED IN LOTUS LIFE MEDICAL CENTER TARGU MURES

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**Background:** The purpose of the study was to evaluate the correlations between the dietary habits of patients with digestive accusations and the diagnosis established following the gastroenterological consultation.

**Methods:** The records of patients presenting in the gastroenterology service of the Lotus Life Integration Medicine Center in Targu Mures were retrospectively evaluated between 1 January 2011 and 30 December 2015, including the following parameters: age, sex, urban or rural environment, height, weight, BMI, blood pressure, pulse, number of meals per day, caloric intake reported, low appetite, coffee, smoking, alcohol, common culinary methods, stress 1-10, symptoms- nausea, vomiting, diarrhea, constipation, food intolerances, heredo-collateral and personal history, previous diagnoses and current diagnosis.

**Results:** Correlations between food habits, symptoms and diagnosis resulting from investigations were followed, and patients with empty stomach coffee were found to have a chronic gastropathy diagnosis of 68%, more common in patients with a heredo- collateral of chronic gastropathy. Patients in whose diet predominated traditional culinary methods presented meteorism, 77% obesity. Patients with a stress score above 8 experienced ulcer-like dyspepsia syndrome and were diagnosed with 86% of the neuro-vegetative dystonia.

**Conclusion:** Management of patients with digestive sympstoms has to be personalized and in strong relationship with diet and lifestyle.

**Keywords:** diet, digestive diseases, dyspepsia

## PERSONALIZED DIETS THROUGH DNA TESTING, FASHION OR NECESSITY - PRACTICAL ASPECTS

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**Aim:** The aim of this study was to evaluate the acceptability and utility of DNA testing in personalized diets.

**Methods:** We conducted a descriptive cross-sectional study between 01.03.2017-31.07.2017 on a sample of 51 overweight and obese patients (28-64 years old), who addressed for nutritional counseling at a nutrition clinic in Bucharest. The data collected by the nutritionist (demographic, antropometric, medical history, genetic results) was analyzed descriptively.

**Results:** 21 patients (8 males and 13 females), with BMI over 30, have expressed their consent to DNA testing in order to personalize their diet. Based on the results of the genetic tests, the following types of low calorie diets were recommended: balanced diet (8/21), Mediterranean diet (6/21), low fat diet (4/21), low carbohydrate diet (1/21) and high protein diet (2/21). In 13 applicants (62%), the optimal diet pattern is different from the one recommended by the guide for adult obesity management (European Guidelines for Obesity Management in Adults, 2015), balanced diet respectively.

**Conclusions:** Acceptability of genetic testing by obese patients is on the rise. We consider that genetic profile testing is especially important in people with stage 2 and 3 obesity, where weight loss is a long term process. Our patients should be monitored for at least 1 year, in order to assess the response to customized nutritional recommendations and maintaining the weight obtained after the weight loss.

**Keywords:** diet, obesity, genetic, pattern, low calorie

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## INTEGRATION OF THE FEEDING GUIDELINES' RECOMMENDATIONS FOR PRETERM INFANTS IN A COMPUTERIZED PROGRAM – FIRST STEP FOR A BETTER PRETERM INFANTS NUTRITION

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**Background:** As preterm infants' survival rate is increasing more focus must and is directed to the improvement of their quality of life by an optimal nutrition. Suboptimal nutritional intake remains the most prominent cause of the extrauterine growth restriction and deficient growth is an important risk factor for various co-morbidities and for unfavorable neurocognitive outcome. The authors are presenting an computerized program for the evaluation of the preterm infant nutrition, a program that comprises the national and international recommendations of the feeding guidelines for preterm neonates.

**Methods:** We included in an electronic program data about the patient – gestational age, age at the evaluation, birth weight and weight at the evaluation, conditions with impact on nutrition. Based on most recent recommendations of the international guidelines for feeding the preterm infant we evaluate the daily nutritional and fluid intake of the preterm infant.

**Results:** Every 7 days the program offers the possibility to compare the preterm infant growth on the growth charts, to store the patients data, and can be transformed in a database that ca be used in real time, with the internet help, in more neonatal units.

**Conclusion:** A simple computerized program that allows at least a periodic quick assessment of the nutritional intake offered compared to recommended standards may be the first step to the improvement of the local feeding protocols and to better results even in terms of better long term neurological outcome.

**Keywords:** preterm infants, feeding, nutrition, guidelines, protocols, growth



## PERCEIVING THE OBESE CHILD’S IMAGE BY THE STUDENT OF THE PREPARATORY CLASS

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**Aim:** The aim of this paper was to decode the attitude and behavior of the children between 6 to 7 years old towards their obese colleagues, starting from the perception of model image.

**Methods:** As a psychological investigation method, we used conversation and demonstration, based on three representative images: obese, malnourished and ideal-weight child, taking into account the age particularities.

**Results:** The target group consisted of 97 children, 54 from the preparatory classes and 43 from the first class. From the processing data, 61% did not accept the obese child, motivating that: he gets tired too fast, sweats and they can not sit on the same chair, 39% accepted the obese child and argues that he is a child like them. The malnourished children were accepted by only 30% of the children monitored, and the rest of 70% motivated that he is ugly and sad. The ideal type of child was 100% accepted because is beautiful, cheerful and funny, avoiding the attitude of discrimination.

**Conclusion:** It is necessary to notice the importance of accepting obese children in the community and guiding him toward a healthy lifestyle that will help him in his adult life, the triad family-school-community, being close to him and helping him.

**Keywords:** obesity, education, health, food, attitude

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## SCREENING AND DIAGNOSIS OF TYPE 2 DIABETES MELLITUS AND GESTATIONAL DIABETES - INTERACTIVE SESSION OF CLINICAL CASES ADDRESSED FROM THE PERSPECTIVE OF RECENT CRITERIA OF CLINICAL GUIDELINES

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**Background:** Detecting various stages of glucose tolerance plays a crucial role, taking into account that diabetes is a major medical condition with major impact both at individual and health insurance system levels.

**Methods:** Prediabetes (impaired glucose tolerance) may be reversible under early diagnosis and promptly setting up of lifestyle change measures. Moreover, it has been shown that in type 2 diabetes, even a decade of evolution may take place until the first diagnosis, sometimes established only at the time of the occurrence of a chronic complication. Diagnostic criteria for diabetes have been revised in line with new epidemiological evidences, and are based on the identification of blood glucose cutoff values whose constant outgrowth is followed by the occurrence of specific diabetes complications and not on the results of glucose tolerance established by populational studies.

**Results:** Gestational (pregnancy) diabetes is defined as any degree of carbohydrate intolerance with onset or first diagnosis during pregnancy, i.e. pregnancy-onset diabetes or pre-existing diabetes previously undiagnosed. It complicates up to 10% of pregnancies, and the screening and monitoring of pregnant women is reglemented depending on the risk class established on the basis of rigorous criteria.

**Conclusion:** Nutritionists can play a key role in the screening of diabetes and impaired glucose tolerance and, in this context, will be invited to an interactive session of discussions on specific clinical cases, in order to become able to recognize risk factors, to build-up investigation algorithms, and interpret the basic screening and diagnosis tests for diabetes as provided by the current clinical guidelines.

**Keywords:** Diabetes Mellitus, Gestational Diabetes, pregnancy, nutrition, guidelines

## NUTRITIONAL APPROACHES IN PREGNANCY FOR PATIENTS WITH AND WITHOUT DIABETES

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**Background:** Optimal pregnancy outcomes and adequate fetus development are common goals of the multidisciplinary medical team involved in pregnancy management. Providing complete and documented nutritional advice is a mandatory part of the medical intervention in pregnancy. Our paper's aim was to provide an objective analysis of the latest publications and guidelines on nutritional recommendations in pregnancy, and to illustrate personalized intervention through suggestive clinical cases from our own database.

**Methods:** Nutrition guidelines, observational studies (cohort and registry studies), systematic reviews, and meta-analysis using Medline / PubMed databases and the Cochrane library have been reviewed. Clinical cases from the existing database were also selected.

**Results:** We selected recent articles in English and French (2009-2017), evaluating nutritional deficits in preconception, pregnancy and post-partum, focusing on their effect, and supplementation on pregnancy and fetal outcomes. Special categories were included in the analysis: gestational diabetes and pregnancy after bariatric surgery.

**Conclusions:** Normal weight before pregnancy is crucial in preventing gestational diabetes. Weight is not a nutritional status indicator, overweight pregnant women being a category at risk for significant nutritional deficits. The fetus may present alterations in his cognitive and structural potential, unapparent from birth but developing later in his evolution. In this regard, individualized nutritional supplementation is recommended in preconception, pregnancy and lactation.

**Keywords:** pregnancy, nutrition, guideline, bariatric

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## OVERWEIGHT AND OBESITY IN CHILDREN - REALITIES AND PERSPECTIVES

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**Background:** Obesity in childhood is a significant risk factor for chronic diseases during adulthood. Our aim was to present the epidemiological situation of overweight and obesity among children in our geographical area, as well as the eating habits behind these disorders.

**Methods:** For epidemiological aspects, anthropometric measurements were performed in 324 school-age children from educational units in Mures county between November 2016-June 2017, and interpreted as standard deviations (WHO AntroPlus). Diet information was obtained by applying a food frequency questionnaire.

**Results:** 34% have an excess disorder of nutritional state: overweight 23% (equal between origin area), and obesity 10%, more in urban areas (14% vs 7% in rural areas). Only ¼ of children are eating fruits and vegetables every day (6,7% do not eat fruits, 14% are eating one-twice a week, frequent intake being reported only in less than a third of them, regardless the area); 17% of children from cities and 4.5% in rural areas, reported constant intake (weekly) of fast-food products; 10% were drinking carbonated beverages (more in rural areas); ¼ were eating sweets every week and another ¼ daily (a third in urban and 20% in rural area). Obese children reported significantly more intake of unhealthy foods like potatoes, banana, cheese, sausage, minced meat, bread, flour dumplings, pretzels, sweets.

**Conclusion:** Multidisciplinary collaboration plays an important role in prevention and management; the perspective of success in this direction consists in a good cooperation between the parent, educator, physician and dietitian.

**Keywords:** childrne, obesity, eating disorders, fast-food

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## PSYCHO-NUTRITIONAL RELATIONSHIP AND TV COMMERCIALS

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**Background:** The purpose of this paper was to determine whether there is a psycho-nutritional relationship in preadolescent food choices and TV commercials. The main objective is to identify, analyze and establish some correlations between food intake, eating habits, food choices, consumption of certain foods as a result of viewing some TV commercials, or watching TV shows, based on questionnaires filled in by children.

**Methods:** It was a retrospective study of 80 pupils from Mures county, between 11-15 years old, in June-July 2017, who filled in a questionnaire.

**Results:** Products bought as a result of watching a TV commercial, using internet, were: 11% juices, 10% burgers, 8% sweets, 9% fries, 6% Dairy, 6% chips, while only 1% vegetable-fruit; 4% phones, 3% perfumes, 2% tablets. 84% are paying attention to Internet advertising, 69% bought food after seeing an internet advertisement, favorite food advertisements were fast food, sweets, and acidified juices, and also 46% consulted on food related to acidified juices, potatoes, hamburgers, chocolate, dairy, while only 12% of them consisted of a fruit and vegetables or cereal.

**Conclusion:** We conclude that among young adolescents, viewing advertisements on TV or the Internet can induce buying unhealthy food, with direct influence on daily food choices. In Romania is necessary to carry out a comprehensive study to verify and accurately identify the psycho-nutritional relationship between watching TV commercials with a negative impact on health and develop a proper program for prevention and education.

**Keywords:** nutrition, marketing, teenagers, fast food

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## COGNITIVE-BEHAVIORAL PSYCHOTHERAPY OF BINGE EATING IN CHILDREN AND ADOLESCENTS

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Diagnostic Classifications of DSM-5 mention and describe the binge eating disorder, present in children and adolescents. Because this disorder is closely related to stress/anxiety and / or compulsive behaviors, cognitive-behavioral psychotherapy (CBT) is a first-line psychological treatment indicated for these disorder. Also, the multidisciplinary approach of the case with a good collaboration between psychiatrist, psychotherapist and nutritionist contributes to the effectiveness of treatment in this type of disorder. The new CBT-specific approaches, such as Acceptance and Commitment Therapy, are extremely effective and contribute to improving the quality of life of these children/adolescents.

**Keywords:** binge eating, adolescents, compulsive behavior, psychotherapy

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## PALLIATIVE CARE - PRESENT AND PERSPECTIVES FOR MEDICAL PRACTICE AND HIGHER MEDICAL EDUCATION. THE ROLE OF THE NUTRITIONIST IN THE MULTIDISCIPLINARY TEAM

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**Background:** Palliative care means treating patients with progressive chronic illnesses who are no longer addressed to active or curative treatment. Palliative care should begin in the same time with the diagnosis of a life-threatening disease. In the center of palliative care is the patient and his family, as a whole, addressing in the same time to the patient, but also to his / her family members.

**Methods:** A very important principle of palliative care is the holistic approach of the patient, meaning that the patient is not just a sick body, but a person who has feelings, emotions. Therefore, his care requires the presence of several specialists, a team consisting of a physicians, nurses, psychologists, nutritionists, physical therapists, social workers or even priests.

**Results:** Progressive chronic diseases can alter the patient's eating behavior and nutrient metabolism. On the other hand, the various therapeutic procedures interfere with the patient's nutrition. Last but not least, the nutrition of the patient influences the therapeutic modalities, the life expectancy and even the evolution of the disease. The nutritional approach may belong directly to the nutritionist or dietitian, in terms of composition of nutrition and energy diet, gastrotechnics and food supplementation.

**Conclusion:** Professionals involved in patient care, regardless of their specialty, should benefit from a unitary medical education on nutritional approach, enabling them to systematically and consistently support the information they give to patients and their families.

**Keywords:** palliative care, cancer, nutrition, medical education

## METHODS TO REDUCE CALORIC INTAKE AND TO CHANGE LIFESTYLE OF CHILDREN AND ADOLESCENTS WITH OBESITY

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**Background:** Knowing the factors that leads to overweight/obesity in childhood and adolescence is very important also the counteracting measures to be implemented in order to reduce the frequency of this burden disease. Our objectives were to highlight the obesity environmental risk factors and to propose methods to reduce caloric intake and changes in lifestyle behavior teenagers.

**Methods:** We have studied the recent medical literature, synthesizing the societal changes in eating witch contribute to the obesity epidemic., also we synthesized the main measures that have be taken in order to reduce the caloric intake of obese children/adolescents.

**Results:** The main obesity environmental risk factors are represented by the abundance of food, changes in meal serving time and ways of food cooking, also the diet habits of the family. The changes of lifestyle we propose includes enough sleep hours, reducing sedentary activities (watching TV, computer gaming), increase outdoors physical activities, and reducing the calories intake by a better organizing of the meals schedule, encouraging drinking of water instead of soft drinks, maximizing the pleasure of having a meal and portion amount control.

**Conclusion:** Changing the lifestyle, avoiding food abuse and increasing physical activities are the most important measures for reducing obesity in children and adolescents.

**Keywords:** obesity, lifestyle, caloric intake, obesity, children, adolescents

## PRO-ACTIVE AND PRO-SANOGEN LIFESTYLE FOR CHILDREN

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**Background:** Our aim was to develop a proactive and pro-sanogene behaviours throughout life, through physical activity often depends on the early sport experience..

**Methods and results:** Motivations for an early active lifestyle: weight control, improvement of metabolism, improvement of the immunitary system, healthy hart and low risk of blood pressure, improvement of self-image and self-respect, strengthening of bones and ligaments, improvement of muscular tonus and reducing stress. Opportunity to practice PE in a safe environment, with well-managed resource, where there is an experience of participation, with an optimal degree of novelty and attractiveness, without fear of injury, facilitates developing of motivation and involvement of children in PE. Management of PE environment requires the use and management of equipment and resources to conduct safe and accessible physical activities.

**Conclusions:** Safe environments are understood as secure vaults with very low risk of injury and discrimination and which create the opportunity for inclusion, motivation and develop practical activities specific to early PE. Physical education influences: health, physical development, capacity of effort and promotes integration into natural and social environment.

**Keywords:** health, physical activity, proactive lifestyle

## RELATIONSHIP BETWEEN DASH-STYLE DIET AND CHRONIC DISEASE IN TIRGU MURES ADULTS

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**Background:** According to World Health Organisation, 18.1% of the Romanian population had obesity, 40.4% of the total population had high blood pressure, and in 2012 ischemic heart disease was the main cause of death, representing 21.4% of all deaths, the second place being myocardial infarction (IMA), accounting for 17.8% of deaths, followed by a 11.3% mortality caused by hypertension. Our aim was to investigate the relationship between the DASH diet and occurrence of high blood pressure and chronic diseases in a group of people from Tirgu Mures.

**Methods:** We used an observational study, by applying a food frequency and lifestyle behavior questionnaire, to a group of 1910 people aged between 15 to 81 years old. The questionnaire consisted of 86 questions related to: demographics, food habits, and chronic diseases diagnosed.

**Results:** A share of 8.1% of all respondents had overweight and obesity, 41.7% people reported the presence of chronic diseases, among the most common were: ischemic heart disease (7.2%), diabetes (6.5%), and High Blood Pressure (HBP) (20.1%). People aged >45 years had a higher DASH score than those <40 years,  $p < 0.001$ . We observed an association between pure alcohol intake (mean=5.6+/-0.43) and an unhealthy diet (corresponding to the DASH score =10-18).

**Conclusion:** Adherence to DASH food style was not statistically associated with the presence or absence of chronic diseases, except HBP. The share of elevated HBP values, was associated with a lower-than-healthy food consumption rate.

**Keywords:** DASH diet, nutrition, lifestyle, hypertension

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## CARDIOVASCULAR RISK FACTORS PRESENT IN PATIENTS DIAGNOSED WITH MYOCARDIAL INFARCTION COMPARATIVE TO THOSE WITH STABLE ANGINA

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**Background:** The management of cardiovascular risk factors, including diet and obesity, are very important. Our aim was to evaluate the extent to which lifestyle risk factors contribute to the production of an acute cardiac event.

**Methods:** This retrospective study included 140 patients who were divided into two groups, namely: (A) n=72 were diagnosed with myocardial infarction and (B) n=68 with stable angina, admitted to the County Clinical Hospital of Tirgu Mures. The modifiable risk factors (smoking, dyslipidemia, diabetes, hypertension, obesity) as well as laboratory data (blood glucose, total cholesterol, triglycerides) were evaluated and compared between the two groups.

**Results:** Males predominated in both groups (75% vs 58.8%,  $p=0.06$ , OR=2.1), mean age was 62.5±11.48 in group A vs 63.2±11.42 in group B ( $p=0.72$ ), smoking habit was more frequent in the group of patients with stroke (41.6% vs 14.7%,  $p=0.0004$ , OR=4.14), hypertension was highlighted more in the group with stable angina (76.47% versus 70.83%,  $p=0.57%$ , OR=0.74), and 62.5% of patients with myocardial infarction had dyslipidemia compared to 50% from group B,  $p=0.18$ , OR=1.66). The mean of Total Cholesterol levels was significantly higher in patients with stroke compared to those with angina (204.6±36.95 mg/dl versus 185.1±47.66 mg/dl,  $p=0.006$ ), and Triglycerides had significantly elevated levels in patients with angina compared to those with myocardial infarction (177.98±84.34 versus 151.05±79.6 mg/dl,  $p=0.02$ ).

**Conclusion:** The presence of risk factors like smoking, dyslipidemia, and high cholesterol, for patients with cardiovascular disease will lead more often to a myocardial infarction than to stable angina.

**Keywords:** risk factors, heart disease, lifestyle

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## NUTRITIONAL AND BEHAVIORAL PECULIARITIES OF THE POPULATION IN THE GENESIS OF DIGESTIVE DISEASES

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**Background:** Our aim was to evaluate the particularities of diet and health status of patients with digestive diseases from Cluj county, highlighting the risk behavioral factors and elaborating the preventive measures needed.

**Methods:** We monitored a sample of patients with multiple digestive disorders admitted in the Clinic of Gastroenterology Cluj-Napoca, regarding their health and nutritional status.

**Results:** The most frequent diseases diagnosed in our sample were: 36% chronic ethanol hepatitis, 24% reflux oesophagitis, 22% gastric ulcer, 22% chronic cholecystitis, 18% gall bladder stone, 18% penetrating duodenal ulcer, 17% viral hepatitis, 16% peptic ulcer, 12% malignant sigmoid colon, 11% oesophagus varicose veins, 11% Crohn's disease, 9% gastritis. From the collected data it was noticed that there are no big differences regarding the geographic distribution of digestive affections in Cluj County. We analyzed also their nutritional status and nutrition behaviours considered predominantly responsible for the onset and / or maintenance of their disease were: poor or irregular diet, alcohol consumption, stress and nervous overload, smoking, or vitamins deficiencies.

**Conclusions:** We consider that indirect factors that has to be improved for these patients, in order to reduce the level of these illnesses, like access to information, community education and reducing exposure to environmental pollution.

**Keywords:** health status, quality of life, digestive diseases

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## LINKS BETWEEN OBESITY AND BODY MASS INDEX OF TEENAGERS FROM MURES COUNTY HIGH SCHOOLS

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**Background:** Childhood obesity is an important health problem because it presents itself as an uncontrolled global epidemic. At current school population, under the influence of environmental factors, the tendency to overcome the height and weight values of previous generations is maintained. Our aim was to compare the body mass index between males and females, in a group of high school students from Mures County.

**Material and methods:** The study was conducted on a sample of 146 Mures county high school students and the data was collected with the help of teachers for a period of 2 months, in 2016.

**Results:** The subjects were between 16-19 years old of which 61.3% were girls. The percentage of girls with normal weight was 5.82%, higher than those of boys, while the prevalence of obesity at boys was 6.79%, higher than the prevalence of obesity in girls of the same age. Frequency of overweight increases from one class to another, confirming the literature data, according to which ontogenesis increases the risk of overweight gain as a result of the increased risk factor action. Analyzing the body mass index in our teenagers sample, we want to highlight the fact that obesity at urban boys was higher than those from rural areas.

**Conclusions:** We underline that overweight tendencies are on rise in the 12th grade, especially among boys. Although the body mass index recognizes certain limits, it remains one of the most relevant indicators for the health status of the population.

**Keywords:** nutrition, students, body mass index, obesity

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## WEB OF CAUSATION BETWEEN DIETARY PATTERNS AND CHILDHOOD OBESITY: APPLYING HILLS CRITERIA

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**Background:** Since their publication in 1965, the Bradford Hill criteria for causality have been largely used as a framework for causal inference in epidemiology. We aim at employing this classical approach to shed new light onto the web of causation of childhood obesity.

**Methods and results:** Although the fundamental cause of obesity is the long term imbalance of energy between needs and intake, this medical condition is multifactorial in origin, influenced by genetic, behavioural, socioeconomic, and environmental factors. This imbalance leads to accumulation of excessive fat tissue. Observational studies tend to mostly quantify any possible association between dietary factors and accumulation of fat tissue. On the other hand, multivariate analysis proved some of these associations to be spurious, therefore prospective trials are needed to demonstrate causality. Short term experimental studies have been conducted to identify unique dietary patterns change on specific outcomes, but long term, community based studies would offer more comprehensive answers on the dietary pattern effects.

**Conclusion:** We discussed the applicability of Bradford Hill criteria by using examples of dietary patterns and accumulation of body fat in excess as exposure-response associations, also we put forward and analyze the evidence that prospective studies would bring, as foundation for future interventions.

**Keywords:** Web of causation, childhood obesity, dietary pattern, fat tissue, Bradford Hill criteria

## DIETITIAN'S ROLE IN THE INTERDISCIPLINARY MEDICAL TEAM

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**Background:** The Dietitian's profession aims at ensuring a balanced nutrition and good health through the prevention of acute or chronic diseases and also through the maintenance and recovery of health status, it can be practiced in public, private or autonomous institutions, also the Dietitian can conclude specific contracts with medical, educational, social, sports, catering, body care, food and pharmaceutical industries, and media organizations.

**Methods:** Our study was based on Law no. 256/2015 regarding the applying of the Dietitian's profession, on Methodological Norms for the Application of the Law 256/2015, EUDAP- 23/10/2015, and also Romanian College of Physicians EMC Program - 23/01/2009.

**Results:** Our activity was focused on developing a joint action plan with family doctor, cardiologist, diabetologist, internist and gastroenterologist, on how to harmonize complementary actions of this complex medical body in order to improve the health of chronic patients. For this purpose, 3 courses of continuous medical education were accredited through the Romanian College of Physicians, and coordinated by the University of Medicine and Pharmacy Tirgu Mures and Mures General Practitioners Association, by elaborating informative materials for patients by a mixed medical team (Physician-Dietitian).

**Conclusion:** The Dietitian can and must provide a medical act similar to the physical therapist and medical assistant, and his work is aimed specifically at the chronic patient. Patients access to Dietitian services can be facilitated by contracting these services by Romanian Health Insurances House/Organization.

**Keywords:** dietitian, physician, nutrition, chronic diseases

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## THE RECEPTIVENESS OF FAMILY PHYSICIANS TOWARDS DIETITIAN'S CURATIVE AND PROFILACTIC INTERVENTION

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**Background:** Given the legislative framework that predicts that as of January 1, 2018 dietary counseling will be done exclusively by Dietitians, we considered it opportune to investigate the receptivity of Family Physicians/General Practitioners for the complementary medical treatment that can be provided by Dietitians.

**Methods:** At the beginning of the training and information campaign for the complementary action: Family Physicians - Dietitian, through continuing medical education, we applied a questionnaire with 12 questions to a group of 90 Family Physicians from urban (40) and rural (50) areas.

**Results:** 97% of the General Practitioners interviewed considered that the Dietitian's intervention would improve the quality of life and 73% believed that this would reduce drug use. 84% of family doctors agreed a mixed team: Family Physician - Dietitian, how the Dietitian will work with them, depending on the rural or urban environment and the family doctor's age, the three choices being volunteer, trainee or employee. The results were analyzed and compared according to the place where the doctor are working, rural and urban area, and that each environment has certain particularities.

**Conclusion:** We have noticed an openness from Family Physicians about working with a Dietitian, the complementary work this team being considered to have a superior beneficial effect on the health of the population, with or without pathology.

**Keywords:** Dietitian, Family Physician, General Practitioners, medical education

## GENETIC TESTS FOR NEWBORN AND CHILDREN - A LIFE INSURANCE, PAY IN ONE RATE!

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**Background:** Neonatal screening allows the identification of Single Nucleotide Polymorphism (SNPs) in the newborn DNA variants that may increase the risk of disease and intolerance: deafness induced by medication, lactose intolerance, celiac disease, haemochromatosis, Alpha-1 Antitrypsin (AAT) deficiency, cystic fibrosis. For children over 1 year, the genetic test contain 27 gene variations and is performed once in a lifetime.

**Methods:** The test is completely noninvasive, a buccal smear being collected. The Laboratory of Molecular Genetics will extract DNA, analyze the exact sequence of specific genes to identify errors or changes to code reading. We were working through PCR, the Sanger method, in Italy.

**Results:** Diseases or conditions tested: the A1555G mutation in MTRNR1 (deafness induced by aminoglycoside antibiotics), cystic fibrosis, CFTR gene; mutations of GALT, GALK1, GALE genes (galactose), Phenylketonuria (PKU) is the result of deficiency in the activity of an enzyme produced by the liver called phenylalanine hydroxylase (PAH); gluten intolerance - HLA-DQ2 and DQ8 genes; lactase LCT gene, 2 variants (C/T at position -13910 and G/A at position -22018), associated with persistence and non-persistence of lactase; metabolism of lipids, carbohydrates, inflammation, vitamin B and D metabolism, detoxification and oxidative stress.

**Conclusion:** In addition to interpret the results, the patient will receive a guide and a personalized diet, which will significantly reduce the risk of disease and keep the body healthy.

**Keywords:** genetic test, diet, phenylalanine hydroxylase

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## THE RISK OF ENERGY DRINKS CONSUMPTION AND OBESITY AT MURES STUDENTS

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**Background:** Lifestyle behaviors with risk for obesity includes excess of sweet beverages, alcohol and energy drinks too, in trend at this moment for young adults. Our objective was to evaluate the risk behaviors in a group of medical students, with focus on energy drinks.

**Methods:** For this study, we used a food frequency questionnaire containing 26 questions related to personal data, diets, lifestyle behaviors, types of beverages and energy drinks consumed daily and frequency of consumption. The questionnaire was applied to a number of 185 Mures medical students in 2016.

**Results:** 14.10% of our students were overweight and 3.30% obese, and from these 74% were consuming daily foods with high caloric intake and low nutritional value, especially boys, who also associate excess consumption of coffee, energy drinks and other types of caffeinated beverages, especially during their exams period. Regarding their preferences for caffeine drinks, students are consuming, in descending order: coffee, carbonated drinks, alcoholic beverages and energizing drinks. Students often turn to alcoholic drinks, sometimes in combination with energy drinks, raising the risk of harming the body.

**Conclusion:** Our results underlined the need for proper health education in schools and universities, especially for medical students, and community interventional measures in order to prevent obesity and other Metabesity diseases risk.

**Keywords:** nutrition, coffee, energy drinks, health education, obesity



## THERAPEUTIC INTERVENTIONS IN METABESITY

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**Background:** Metabesity is the term used by Dr. Fleming (USA) to describe the package of interconnected diseases: diabetes, obesity, metabolic syndrome, cardiovascular disease, dyslipidemia, cancer and neurodegenerative, diseases that have the same metabolic and inflammatory roots and are an enormous burden on health and economy.

**Methods:** Early intervention to prevent these diseases is more effective than treating them, and has common methods.

**Results:** Overweight and Obesity are the fifth risk of death worldwide. At international level, the prevalence of obesity has more than doubled between 1980 and 2014; increases on average by 2% annually. In 2014, over 39% of adults were overweight and 13% obese. In the USA, 1 out of 2 adults is overweight / obese, and in Romania 1 out of 4. EUROSTAT shows that in Romania the highest proportion of obesity in women is registered in those with low schooling, while in men, with high school education. The obese child is at high risk of becoming a obese adult, a UNICEF 2009-2010 report that looked at 11-15 year old children in 29 countries showed that the highest percentage of obese children was registered in the US (almost 30%), our country is in the middle (15%).

**Conclusion:** Solutions for Metabesity prevention come from several directions: nutrition, physical activity, stress management, food supplements, drugs, medical devices, rehabilitation and surgery. It is recommended to follow the management algorithm of obese children/adults and personalize dietary and lifestyle recommendations.

**Keywords:** obesity, metabesity, diet, lifestyle, cardiovascular diseases, surgery, rehabilitation

## FOOD PREFERECES AND DIETETIC BEHAVIOR IN OVERWEIGHT

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**Background:** Obesity is a complex disorder, its prevalence has increased so significantly in recent years that many consider it a major health concern in the developed world. This study evaluated the effect of food preference and dietary behaviours on the risk and prevalence of obesity at Chisinau Medicine students.

**Methods:** All overweight or obese students were recruited from University of Medicine and Pharmacy Testemitanu, from Chisinau / Moldova Republic. The body mass index was measured and their food preferences and behaviours were evaluated using a structured questionnaire. Diet behaviour and food preferences have been classified into four levels, and the inferior levels have been defined as control groups. The logistic regression has been used to assess the independent determinants of being obese.

**Results:** Of 150 participants, were included 38 cases of obesity/overweight and 52 individual with normal weight. The results of the univariate analysis showed that the overweight or obesity rates were 0.40-0.49 in those with the highest preference (peak group) on vegetables, fruits, candies, snacks, 0.56 in students with a lower diet fraction, 1.74, 1.28 and 1.21 most preferred for pork, beef and fresh cakes, and 4.98 for students with the highest speed at mealtime (all P <0.05). Consumption of vegetables, preference for evening snacks, meal speed and food parity remained significantly associated with overweight and obesity in multivariate analysis after adjusting for age, gender, and socio-economic status of the family.

**Conclusion:** The habit of eating more vegetables, low fat and sweet diets, can be protective against overweight and obesity. Young people and especially medicine students need more information about proper nutrition and diet monitoring for their patients and also for their own.

**Keywords:** overweight, food behaviour, students

## PREVENTION STRATEGIES FOR CHILD OBESITY: BETWEEN DESIDERATUM AND REALITY

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**Background:** Childhood obesity is a major public health problem, currently considered the most common nutrition disorder. The etiology of obesity is extremely complex, combining genetic predisposition with current dietary habits and media and marketing influences specific to the contemporary obesogen environment, fosters weight gain in children and adolescents through excessive eating and lack of movement.

**Methods and results:** Because obesity prevention is achieved through food and behavioral education, weight control should be recognized as one of the objectives of public health policies. Prevention is the best cost-benefit approach to controlling childhood obesity and, in the future, adulthood. Childhood is an important opportunity to establish healthy eating habits and physical activities that can protect children from further obesity.

**Conclusion:** Nutritional prevention interventions should start early in life because childhood obesity, can persist in the adulthood.

**Keywords:** obesity, prevention, public health, children

## THE RELATIONSHIP BETWEEN THE NUMBER OF SLEEP HOURS PER NIGHT AND BODY WEIGHT

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**Aim:** Recent studies demonstrated the existence of connexions between sleep duration and the Body Mass Index (BMI) value. Our aim was to assess the particularities of sleep habits in young people and to establish correlations with the evolution of their body weight.

**Methods:** 678 young adults were questioned on parameters of sleep: hours slept, waking up, difficulty in falling asleep, environmental conditions of sleep, other habits related to sleep. Self-reported weight and height were used for BMI calculation.

**Results:** For our sample, the media of sleep hours for the week nights was 7 hours. For the week-end nights, the media was 8.3 hours of sleep. A negative and statistically significant correlation was found between the number of hours slept per night and BMI, the persons sleeping fewer hours during week nights have larger BMI. Because for girls at a reproductive age, obesity can present additional risks, for our 376 girls a multiple linear regression was used in order to identify the abnormal sleep parameters that are associated with elevated BMI. The model that resulted explains 8.7% of the variance.

**Conclusion:** The present study confirms the existence of a cross-sectional association between sleep duration and BMI, as demonstrated in recent research. Weight reduction programs should also take in consideration the improvement of sleep parameters, especially duration.

**Keywords:** obesity, sleep, young adults

## PERFORMING THE NUTRITIONAL ANAMNESE OF INPATIENTS FROM INTERNAL WARD, AT TIRGU-MURES MUNICIPAL HOSPITAL

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**Objective.** The purpose of this evaluation was to identify the level of achievement of the nutritional anamnesis of inpatients from Internal ward, during a doctor's consultation during admission.

**Material and method.** This evaluation was carried out using a questionnaire consisting of 25 questions; the interview was done by a trained student on the Internal ward of Tirgu Mures Municipal Hospital. All participating patients agreed to this assessment and signing an informed consent form.

**Results.** We evaluated 150 patients (from which 52% man and 48% from rural area) with mean age of 61.6+/-12.2 years old. In a majority of patients, the initial consultation at the hospitalization was done by a resident doctor (62.5%), 51.3% of the patients declared that the medical resident was hurrying to another consultation and 79.6% reported that during hospitalization they did not receive any information about a proper lifestyle and diet, also 85.5% said that no health care provider recommended them to change their food behavior for prevention and treatment.

**Conclusions.** This preliminary analysis revealed the urgent need for a Dietitian in hospitals, on every ward, in order to achieve a proper nutritional history and educate and help the patients to recover and maintain health.

**Keywords.** Dietitian, hospital, nutritional evaluation

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## FIBER ROLE IN CHILDRENS DIET

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**Background:** Fiber consumption is associated with different outcomes related to maintenance of digestive health and prevention of cardiovascular disease, type 2 diabetes, obesity, some types of cancer, etc. Daily recommended intake has been established clearly for adults, but for children the suitable intake is rather vague. The American Academy of Pediatrics recommends an intake of 0.5 g/kg body weight for children older than 2 years old. According to European Nordic Nutrition Recommendations, the daily fiber intake should be  $\geq 10$  g by school age and should gradually increase to reach the adult recommendation (25–35 g/day) during adolescence.

**Methods:** We carried out a narrative review of literature covering health promoting effects of fiber consumption in childhood, by searching and selecting most relevant papers on PubMed for “child”, “children” AND “fiber”.

**Results:** Fiber are generally prescribed with good results for severe constipation, a lower risk in developing appendicitis, obesity and diabetes, and are lowering serum cholesterol concentration. When compared, children with a higher fiber intake had a better microbiota profile, with a significantly less bacteria from the Enterobacteriaceae group, than children with a lower intake. Contrary to common belief, a suitable fiber intake included in an otherwise nutritious diet does not have a negative impact on minerals bioavailability, being even positively related with a better bone mineral density in the distal forearm in children of 8-11 years.

**Conclusion:** The known health benefits of dietary fiber intake, thoroughly studied in adults, call for increased awareness of the need to examine the potential benefits for children’s health through increased dietary fiber.

**Keywords:** fiber, children, intake, obesity, microbiota



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**The 3<sup>rd</sup> International  
Sport Nutrition Conference  
“Transdisciplinary Research  
in Physical Therapy, Physical  
Activity and Sports Nutrition”**

Tîrgu Mureş, Romania  
3-4 November 2017





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# The 3<sup>rd</sup> International Sport Nutrition Conference “Transdisciplinary Research in Physical Therapy, Physical Activity and Sports Nutrition”

3-4 November 2017 / Tirgu Mures, Romania, Imperial Hotel

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## ACUTE LACTATE CHANGES DEPENDING ON HIGH-INTENSITY INTERVAL TRAINING IN TAEKWONDO PLAYERS

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**Aim:** This study aimed to examine the lactate changes at the acute level depending on high-intensity interval training in taekwondo players.

**Methods:** 20 athletes participated in the competition organized by the Taekwondo Federation in Istanbul Province in 2016. In the study, high-intensity interval training was applied by spinning exercise based on the Tabata protocol. The loads were applied to a total of four sets, eight replications, 20 seconds load-10 seconds rest principle, and minute intervals between sets were given. The lactate measurement of the subjects was measured from a finger with the aid of an Accutrend Lactate portable lactate analyzer with the aid of a stripline. Lactate measurements were taken five times in total before exercise (BE), after 1st set (1S), after 2nd set (2S), after 3rd set (3S) and after exercise (AE). The pulse rate (PR) of the athletes was controlled by their coaches before and during exercise.

**Results:** The subjects were selected from athletes with at least six years of background. The age and body weight values were  $18.89 \pm 20.07$  years /  $70.59 \pm 12.13$  kg. It was a statistically significant difference between BE lactate levels and PR, and 1S, 2S, 3S, AE lactate levels and PR ( $p < 0.05$ ) also between 1S lactate level is compared to all processes except 2S ( $p < 0.05$ ) and between between pre-exercise PR and all other values when evaluating the pulse rate of athletes ( $p < 0.05$ ). The change between 3S and AE lactate levels is not statistically significant ( $p > 0.05$ ).

**Conclusion:** We observed that the spinning exercise applied with the high-intensity interval training method rapidly increased acute lactic acid accumulation and pulse rate. Taking into consideration the taekwondo branch, we can say that the loading exercises performed can be used as a lactate tolerance training method to counteract fatigue.

**Keywords:** spinning, lactate, HIIT, Taekwondo

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## PHYSICAL EDUCATION TEACHER'S VIEWS ABOUT CHARACTER EDUCATION

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**Background:** Thus, the purpose of this study is to find out the views of teachers of physical education about how they define character education, whether they think national education curriculum and the curriculum of private schools are suitable for character education and whether they think character education can be applied in physical education lessons.

**Method:** A case report design was used, with qualitative research method. The sample group consisted of 6 physical education teachers working in 3 secondary schools and 2 high schools of Kütahya city center, which were determined with easily accessible case sampling method. Individual interviews were conducted within the context of semi-structured interview technique. The participants were informed that the interviews would be voice recorded and later their expressions would be written down to avoid data loss. Descriptive and content analysis methods were used to analyze the expressions which were converted into text.

**Results:** The results of the analyses showed that physical education teachers defined character education as changes that occurred in individuals' behaviors first in the family, then at school and the education conducted to teach individuals socially accepted and correct behaviors.

**Conclusion:** In addition, it was found that the teachers stated that the current curriculum of the country and also physical education curriculum were not suitable for character education; however, since it is a social lesson and since participants are continuously active and in communication, physical education lessons can be more effective than other lessons in terms of character development.

**Keywords:** physical education, teacher, character, education, view

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## EXAMINATION OF SOME PERFORMANCE VARIABLES THAT AFFECT BALANCE OF TAEKWONDO PLAYERS

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**Aim:** The aim of this study is to examine some performance variables that affect the balance of taekwondo players.

**Method:** 13 students from Bartın University who are still actively taking part in competitions participated in the study. The ages, sporting ages, heights and weights of the participants have been identified as a result of the measurements. The measurements have been conducted

according to the athletes' performance values of flexibility, anaerobic strength, back-leg strength, long jump and velocity. The athlete's static balance measurements have been made by using (Pro-Kin, Technobody) Equipment. Pearson Product Moment Correlation Method has been used in order to assess the relation between balance and performance variables of Taekwondo players.

**Results:** Due to the findings of our research; a meaningful relation between the athlete's balance scores and their heights, weights, anaerobic strengths, velocities, and back-length strengths whereas no meaningful relation has been found between the athlete's balances and their elasticities, long jumps, ages and sporting ages.

**Conclusion:** As a result it can be stated that the athletes' elasticity, anaerobic strength, back-leg strength, long jump, velocity and balance scores are good according to the literature. It was found that height, weight, anaerobic strength, velocity and back-leg strength values have little effect on balance parameters whereas elasticity, long jump age and sporting ages have no effect. In this respect it can be stated that some variables such as height, weight, anaerobic strength, velocity and back-leg strength have a definitive role on taekwondo players' balance values.

**Keywords:** taekwondo player, physical performance, balance

## SOME PRINCIPLES OF SPORTS NUTRITION OF ADOLESCENTS ATHLETES

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**Aim:** It was pursued the argumentation and development of preventive measures concerning the nutrition and strengthening the health status of athletes and people practicing sport.

**Methods:** To characterize the nutrition of pupils from pre-university sport institutions it was studied the daily diets and distribution menus. The investigations were based on modern hygienic, sanitary-chemical and statistical methods.

**Results:** Among the proposed measures were: ensuring of the body with the required amount of energy, according to the energy expenditures that result from practicing of exercises; respect the principles of rational nutrition according to the type of practiced sport and the intensity of physical effort, that provides a distribution of the energy value of the daily diet for the main nutrients (proteins, lipids, and carbohydrates), the balance between energogenic nutrients, vitamins and mineral salts in the daily diet; to respect the food regime, the number of daily meals (3–6 times), taking into account the training and competition period; selecting the forms of adequate nutrition (food-stuffs, nutrients and their combining); using the nutritional factor of lowering the athletes body mass; individualizing the athletes diet (depending on anthropometric parameters, metabolic and physiological processes, health, habits).

**Conclusion:** Knowledge and compliance with the requirements of the healthy balanced eating and a healthy lifestyle are measures that contributes to maintaining and strengthening health, reducing morbidity and trauma, the increase of life expectancy. This study allows us to conclude that problem of adolescents athletes' nutrition is current and has social and economic impact.

**Keywords:** nutrition, health, prophylactic measures, adolescent athletes

## CONSUMPTION OF DIETARY SUPPLEMENTS OF PEOPLE WHO ATTEND A FITNESS AND AEROBICS GYM IN TIMISOARA

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**Aim:** The interest in getting a more harmonious body shape, both in women and men, increased lately under the pressure of fashion and new models of today. The number of people practicing sports in the gym has increased lately, especially among young people. At the same time, the consumption of dietary supplements have been increased in hopes of quicker results. Identifying users of dietary supplements in people doing sports in a fitness and aerobics gym in Timisoara and their eating and training habits.

**Methods:** We conducted an inquiry based on an original questionnaire regarding dietary supplements consumption by young people who exercise regularly and the importance given to these supplements. This study also looked at the importance given by the athletes to proper nutrition, details of training and how long they practiced sports. The questionnaire was done on a sample of 61 people aged between 15 and 52 years.

**Results:** Most respondents consume one or more dietary supplements; almost all who use dietary supplements also use a protein-based supplement, mainly from whey; Creatine is a supplement consumed in large quantities; athletes are mindful of the content of the products on the market, are more informed about the effects of supplements.

**Conclusion:** Food supplements for athletes are widely consumed in the hope of rapidly achieving a desired body shape and because of the promotion of these products in the gym.

**Keywords:** athletes, dietary supplements, fitness

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## EFFECTS OF A LOW CALORIE, HIGH PROTEIN DIET AND STRENGTH EXERCISE PROGRAM ON BODY COMPOSITION IN OBESE INDIVIDUALS

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**Aim:** Assessment of the effects of a reduced calorie, high protein diet and an strength exercise program on total body mass (TMB), body composition (BC), resting energy expenditure (REE) and compliance to the protocol.

**Methods:** We have monitored ten women and fifteen obese men (average BMI kg m<sup>2</sup>> 30), mean age 34.1, previously sedentary or active at the recreational level (1-2 times/week), for a period of 7 months. Each of them followed a low calorie, high protein diet and strength exercise program. TBM, BC and REE were determined by bioelectrical impedance method (Tanita Body Composition Analyzer Sc 330)

**Results:** Both groups recorded a significant decrease in TBM (Females -5.24 kg; Men -7.43 kg), fat mass (Females -4.61%/-5.47 kg; Men -4.78%/-6.46 kg), body mass index (Women -1.83; Men -2.33), visceral fat index (Women -1.28; Men -2.93). Over the course of the program, the lean mass did not change significantly (Women +0.22 kg; Men -0.78 kg) neither did REE (Women -13.71 kcal/24h, Men -47.07kcal/24h). After adjustment with baseline, men lost more TBM and fat mass compared to women (-7.56%/-23.64%versus-6.03%/-14.99%) and showed a more significant decrease in the visceral fat index and body mass index (-25.63%/-7.41% versus-16.91%/-6.02%). Women recorded slightly better retention of lean mass and REE (+0.46%, -0.87%vs.-1.16%, -2.23%). We observed that following the intervention the parameters were reduced in important percentages, especially in men, and the drop rate was slightly higher also in the male gender.

**Conclusions:** A hypocaloric diet (diminished by 30% of necessity), high in protein (> 2g/kg body), associated with a program of strength-specific exercises performed in a circuit for a period of between 1-7 months, results in significant loss of fat mass, retention or increase in lean mass, decreased BMI and visceral fat index, and conservation of basal energy requirements.

**Keywords:** high protein diet, strength exercise program body composition, obesity

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## FROM FIT TO FAT. WHY ATHLETES GAIN WEIGHT AFTER RETIREMENT?

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**Aim:** Our main goal in this paper was to identify the factors which influence gaining weight in former athletes. While athletes are in their prime, intense training makes it almost impossible to gain weight. After retiring, the level of physical activity takes a huge drop, while the amount of consumed food may remain the same.

**Methods:** The used method was the bibliographic one. Prior studies investigating this topic were identified.

**Results:** Maintaining a stable body weight is an index of a rational and qualitative nutrition. Making the athlete aware on the strategies of correct eating and physical activity requires a professional intervention from a nutritionist, a physical trainer and a psychologist. We discovered a whole series of factors that influence fat growth and lower fitness after withdrawal. The most common factor is keeping the same eating habits, even though the intensity and frequency of training has drastically diminished or is totally lacking. Returning to the gym can be more difficult for a former athlete than for an average person. The idea of entering a gym, willingly, without having a strict program to follow or a mandatory body weight to reach, affects deeply the athlete's psyche.

**Conclusions:** With a well-established awareness program, this problem can be substantially diminished. We consider important the implementation of health and physical condition preserving methods, like counseling, informing families and creating specific physical training programs.

**Keywords:** sport, nutrition, performance, athlete

## HARLEQUIN ICHTHYOSIS. ALLEVIATING SYMPTOMS THROUGH HYDROTHERAPY AND DIET

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**Aim:** Harlequin ichthyosis affects 1 out of 1 million children globally. The etiological factor is a genetic mutation on chromosome 2, which affects the gene responsible for lipid transport. For these children moisturizing, nutrition and movement are very important. The aim of this bibliographic study was to review the hydrotherapy methods used to improve the symptoms and to highlight the importance of nutrition for these children.

**Methods:** The used method was the bibliographic one. Prior studies investigating this topic were identified.

**Results:** Bodies of children with Harlequin ichthyosis use so much energy producing extra skin that they need an excessive amount of calories just to gain weight and inches. Most Harlequin kids are on the very low end of the growth charts or not even on the charts at all. Moreover, they also lose water more quickly through their skin. In terms of growth, aquatic exercises influence all the components of physical form: strength, body composition, aerobic capacity, flexibility and articular mobility, influencing even neuromuscular coordination. In addition to hydrokinetotherapy, we found good outcomes through Whirlpool baths, general baths with indifferent temperature, hot baths, baths with brushes, showers and general medical baths with wheat bran.

**Conclusions:** Applying a program into the aquatic environment contributes to improving the physical condition, with the specific indication that aquatic exercises should be performed regularly and systematically. Further studies are needed to examine the mode of action of hydrotherapy and nutrition and their long-term effects.

**Keywords:** hydrotherapy, harlequin, ichthyosis, nutrition

## EXAMINATION OF THE EMPATHY TENDENCY LEVELS OF PEDAGOGICAL FORMATION STUDENTS IN PHYSICAL EDUCATION AND SPORTS

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**Aim:** The aim of this research is to examine the empathic tendency levels of students of recreation, coaching education and sports management, who continue to study and graduated with pedagogical formation education in faculty of the sport sciences, in terms of different variables.

**Methods:** The research was designed in a quantitative research model and examined by survey method. For the data collection in the research, Personal Information Form and “Empathic Tendency Scale” of Dökmen (1988) were used. Parametric tests were used in the analysis of data since Skewness and Kurtosis values of the independent variables were between (+ -1).

**Results:** In the light of the obtained findings, it was revealed that there was no significant difference in the total score of empathic tendency scale according to variables of gender and marital status. According to the Pearson Moment Correlation analysis performed to determine the relationship between the total score of the “Empathic Trends Scale” and the age variable, no significant relationship was found. The total score participants have received from the “Empathic Trends Scale” differs significantly according to the participants’ educational status.

**Conclusions:** When the empathic tendency levels of participants were examined, it was found that there was a significant difference between the participants who graduated from universities and those continuing to study at university, while no significant difference was found in terms of gender and marital status variables.

**Keywords:** pedagogical formation, empathy, physical education

## TRIATHLON AMATEUR COMPETITION – A WAY TO AN IDEAL WEIGHT

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**Aim:** The purpose of this study is to demonstrate that during triathlon training there is a significant caloric consumption and this sport helps achieved an ideal weight.

**Methods:** The observation and monitoring method has been used for 3 years during the subject lost more the 30 kilograms.

**Results:** Triathlon competition reserved for amateur athletes it is an excellent way to reach an ideal weight. Due to the training and energy requirements during swimming, cycling and running, triathlon athletes must have adequate nutrition. This complex sport represent an ideal from of exercising to get from obesity to an ideal weight.

**Conclusions:** Training during the competitive season and the extra-competitive season requires a rigorous diet. A correct eating from a sporting point of view will lead to weight adjustment according to the requirements of the sample and on the other hand provide the required energy support during the race.

**Keywords:** triathlon, nutrition, diet, training

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## INVESTIGATION OF PSYCHOLOGICAL RESISTANCE LEVELS OF FOOTBALL PARTICIPANTS AT THE TURKISH CHAMPIONS BY DIFFERENT VARIABLES

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**Aim:** The aim of this research is to examine the psychological endurance levels of the footballers participating in the Turkish championship according to different variables.

**Method:** A descriptive scanning model was used, in the study. The study group of study constitutes a total of 53 athletes participating in the inter-university football Turkey group competitions organized in Tokat province in 2017. The data of the study were collected using the “Personal Information Form” prepared by the researcher and the inventory developed by Friborg et al. (2003) to determine the psychological endurance levels of the athletes. Arithmetic mean, standard deviation, t test and one way analysis of variance were performed on the collected data ( $p < 0.05$ ).

**Results and conclusion:** According to the findings, the participants reached a significant difference in their age, place of residence, monthly income levels, but they did not differ according to gender variable.

**Keywords:** football, psychological endurance, psychology

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## THE INVESTIGATION OF THE ROLE OF DEMOGRAPHIC AND PSYCHOLOGICAL VARIABLES IN HIGH SCHOOL STUDENTS’ PERSONAL RESPONSIBILITIES

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**Aim:** The goal of the study was to examine the role of student gender, parent education, parental interest in sports, parent working status, high school students’ ostracism experiences, and resilience scores in their personal responsibilities.

**Methods:** The sample of the current research consisted of 386 high school students (181 male and 199 female; mean age=16.11, SD=1.02). The data were obtained by using Turkish version of Student Personal Responsibility Scale, Turkish version of Ostracism Experience questionnaire, and Turkish version of Resilience scale. For data analysis, multiple regression analysis with enter method was used.

**Results:** A multiple regression with enter method analysis was employed to predict high school students’ personal responsibility scores. The full model, including, gender, parental work status, interest in sport, mother and father education, the individuals’ ostracism experiences, and resilience, explained a significant amount of the variance in students’ personal responsibility scores [ $F(7,378)=29.58, p<.05, R^2=0.35$ ]. Individually, father ( $\beta = .418$ ) and mother ( $\beta = .208$ ) educational status were the most significant predictors in the full model. In addition, the individuals’ ostracism experiences ( $\beta = .112$ ) and parental interest in sports ( $\beta = .089$ ) were also statistically significant effect on the model.

**Conclusions:** The findings indicated that family education level, parental interest in sports, and the students’ ostracism experiences explained about .35 % of the total variance in personal responsibility scores. The study limitation and future directions were discussed.

**Keywords:** demographic variables, psychological variables, students

## SOCIO-ECONOMIC FEATURES, KNOWLEDGE AND THOUGHTS OF STUDENTS IN FACULTY OF SPORT SCIENCE ABOUT THEIR FIELDS

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**Aim:** The purposes of this study was to determine some of the sporting and non-sporting socio-economic features, informed decisions and thoughts of students in faculty of sport sciences about their fields and examine the possible differences therein.

**Methods:** The students from Gazi University were participated in the study in May, 2016. Data was obtained via questionnaire forms. 85 [62 male (73%), 23 female (27%)] students' questionnaires were analyzed.

**Results:** 47.1% of students were aged above 24 years old. Most students' marital status was single (92.9%), both parents were still living (90.6%) and family monthly income was under poverty threshold. 49.4% did not have same (family) income, some families engaged in additional work (16,5%). The financial sources of students were allowances (28.8%), sporting (25.0%) and non-sporting (6.8%) jobs, non-refundable (20.2%) and refundable (19.2%) grants. Moreover, approximately half of the students were living in their own home (55.3%) while the other half were living in a rental house or dormitory (44.7%). The most prevalent expenditures were nutrition (28.2%), clothing (15.3%), pleasure/recreation (15.3%), rent (14.1%), education (8.2%) and transportation (7.1%) related consumptions. While most students in total wanted (77.6%) and still prefer (75.3%) to study in their departments; significantly higher number (33.33%) of students in sport management department (SMD) wanted to pursue another degree previously ( $p < 0,1$ ).

**Conclusion:** These results may help arranging related services for students. Further research with increased population is needed for more specific results.

**Keywords:** informed decision making, sporting employment, socio-economic features, students

## AN INVESTIGATION OF HOPELESSNESS LEVEL OF THE STUDENTS MAJORING AT THE FACULTY OF SPORT SCIENCES

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**Aim:** The aim of this study is to explore hopelessness levels of the students majoring at the Faculty of Sports Sciences at Ataturk University.

**Methods:** For data collection, “Beck Hopelessness Scale”, which was developed by Beck et al. (1974) and adapted into Turkish by Seber (1991), was used in the current study to examine the hopelessness levels of students. This questionnaire was administered to a total of 497 students consisting of 312 male and 185 female students. For data analysis, SPSS statistical packet program was used for frequency analysis, and independent t-tests, one-way ANOVA and Tukey test were run to find out the source of the difference among different groups of participants.

**Results:** The results of the study showed that there was a significant difference in terms of the comparison of the hopelessness levels regarding the participants' gender ( $p = .000$ )

**Conclusion:** Based on this result, male students were found to favor hopelessness levels much more than female students.

**Keywords:** hopelessness, sports, physical education

## VERTIGO IN SPORTS

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**Aim:** Vertigo, in general, is the false sensation of surroundings is moving. Severity of false movement or moving sensation changes from true vertigo to dizziness and lightheadedness. Hence, physical activity is one of the major recommendations to the sufferers of any kind of vertigo not only for better recovery but also preventing the attacks. Nevertheless, sports accidents and/or some other sports related factors such as nutrition, increased body-mass or weight-cycling, or overall, have been reported as risk factors for vertigo.

**Methods:** In this study, we reviewed the papers in PubMed using “sports, vertigo” keywords.



**Results:** Total 216 papers from 1952 to September 29, 2017 were recognized. Of them, 173 papers were the studies presenting sports related vertigo attacks (SVA). The most reported sports in relation to vertigo were diving, and then swimming. Besides, American football, boxing and any sports accidents causing head injury were reported to be causing vertigo together with loss of consciousness. Although, major type of SVA was benign paroxysmal positional vertigo (BPPV), any kind of vertigo together with unconsciousness could indicate life-threatening conditions. On the other hand, it has also been documented that when unconsciousness was accompanied by vertigo, it took longer to recover. Besides, sudden onset of vertigo without any trauma during major physical effort particularly in young athletes could be a sign of any fatal neuro-/cardio-vascular abnormality.

**Conclusions:** This study provides preliminary discussions to explore psycho-social hegemonic discourse and representations in related sports fields, in order to contribute to the interdisciplinary evaluations and practices.

**Keywords:** medical sociology, politics, review, sports, vertigo

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## EXPERIMENTAL STUDY ABOUT THE ROTATING MOVEMENTS THROUGH BOWEN THERAPY

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**Aim:** Research offers new techniques and methods for patients rehabilitation. One of these techniques is Bowen Therapy, which is based on a dynamic therapeutic system. Research hypothesis: we suppose that the individualized application of the Bowen Therapy combined with the active medical gymnastic will bring improvements in the rotating movements of the affected shoulder.

**Methods:** Our research was conducted between October 2015-March 2016, at the Rheum Care Foundation Tirgu Mures. The group of subjects was made out of 20 patients diagnosed with chronic push syndrome, female, aged between 45 and 55, in menopausal period. The test group was divided in two: the experimental group that benefited of Bowen Therapy combined with active medical gymnastics; the control group that benefited of active medical gymnastics. The evaluation was made using the Apley Scratch Test, up and down.

**Results:** The results were statistically significant, the difference between the two groups, in order to ameliorate the movement amplitude, is 28% at internal rotation and over 9% at external rotation, in favor of the experimental group.

**Conclusions:** The hypothesis was confirmed: rotation of the affected shoulder considerably improved in the experimental group. In both tests, the experimental group on which Bowen technique was applied had proven better results comparing to the control group.

**Keywords:** Bowen therapy, rehabilitation, improvements

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## STUDY ON THE LEVEL OF INFORMATION FOR HIGH SCHOOL STUDENTS REGARDING THE ROLE AND BENEFITS OF PHYSICAL THERAPY

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**Aim:** “Prophylaxis is easier than treating” is what we hear from all medical professionals. Research hypothesis: the hypothesis of the study is that young people are not sufficiently informed about the risk of suffering spinal deviation and other traumas.

**Methods:** The study is ongoing and so far we have questioned 44 students, 18 years old, of a high school in Tirgu Mures. The questionnaire includes 13 specific questions that highlight the students' level of information on the field of kinetoerapia.

**Results:** To date we have obtained the following data: 25% of the surveyed students are not active. Over 65% have heard about kinesitherapy, but only 31% know what this discipline is doing, although over 54% have suffered sprain, nearly 32% had dislocated, 25% have been fractured, and nearly 23% students have spinal diseases. However, only 18% of these pupils were recommended physical therapy.

**Conclusions:** The hypothesis is confirmed: young people are not sufficiently informed about the risk of spinal deviation, nor with other traumas.

**Keywords:** prophylaxis, young people, physical therapy, spinal deviation

## STUDY ON THE IMPORTANCE OF CARDIOVASCULAR EXERCISE IN TREATING DRUG ADDICTION

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**Aim:** Research hypothesis: By means of cardiovascular exercise, the drug addict will manage to pass more easily over the maintenance period and the need for drug use will diminish. Cardiovascular exercise improves heart health, helps with hormonal balancing and increases metabolism.

**Methods:** The study was conducted over a period of 7 months, between March 2017 and October 2017, at a private psychiatric clinic. In this study, 10 patients with severe cannabis addiction were enrolled, aged between 20 and 30 years. All patients have been hospitalized at least once in the last 12 months for the same problem. To assess the severity of the withdrawal, subjects were asked, on a scale of 1 (lightest) to 10 (the most severe), what intensity had withdrawal this time and what is their need to consume drugs at discharge. Subjects benefited from a strict cardiovascular exercise program consisting of: 20 minutes on the treadmill, 20 minutes of cycling, 150 repetitions on the stepper and 2 minutes of skipping the rope, followed by 5 minutes of walking for recovery after physical exercise.

**Results:** The results were statistically relevant. These demonstrate that subjects managed to pass 73% more easily over the withdrawal period and the need to consume drugs decreased by up to 88% on discharge.

**Conclusions:** The hypothesis was confirmed: cardiovascular exercise is beneficial in relieving withdrawal symptoms in cannabis addiction and alleviating the need for drug use.

**Keywords:** cardiovascular exercise, treating, withdrawal

## PHYSIOLOGICAL BENEFITS OF EXERCISE

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**Background:** It is known that the rapid increase in urbanization has led to less body movement, negative changes in ideal weight, cardiovascular diseases, diabetes, and hypertension. The situation which is against the nature of human organism has been become widespread despite all the negative effects. As a result of this, people prefer driving their cars to go to places at walking distance. When we look at the industrialized countries, we see that 45% of cardiovascular diseases lead to death.

**Methods and results:** Statistics of World Health Organization show that there is a continuous increase in cardiovascular diseases. In this sense, lack of exercise lead to hypertension, diabetes, renal insufficiency, pancreatitis, cardiovascular diseases, metabolic failures, respiratory tract diseases, osteoarthritis, gout, temporomandibular joint disorders, abnormal lipid and lipoprotein concentration, lack of efficiency in muscle movements, aging, short lifespan. Our aim was to be healthy and positive and to slow down aging process doing exercise plays an important role.

**Conclusions:** People who do regular exercise use all their capillary vessels bound to musculoskeletal muscles. It is also beneficial for heart too because doing exercise lead to increase in HDL which prevents arteriosclerosis by fighting against fatty substances. Besides, our body produces much energy during exercise and this lead to increases in enzymes that burn fat and carbohydrate.

In short, doing exercise help us to prevent or slow down physical negative effects of sedentary life and aging, to increase our physiological capacity and preserve physical suitability and health for years.

**Keywords:** exercises, diseases, health, physiological benefits

## EXAMINATION OF COGNITIVE ABSORPTION LEVELS OF ATHLETES

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**Introduction and aim:** Cognitive absorption is “deep commitment to technology experiences” (Agarwal and Karahanna, 2000). The technology, indispensable in the life of individual in our age, is important to the extent to which the athletes have to do in intense training. The aim of this study is to reveal the cognitive absorption levels of licensed athletes and to examine them on various variables.

**Method:** 1078 licensed athletes participated in the study. The “Cognitive Absorption Scale was used for the collection of data. The subscales are “Time”, “Curiosity”, “Pleasure” and “Focus on Interest”. The internal consistency coefficient of the scale is 92 (Koçak and Kurt, 2009). The internal consistency coefficient is 96. Independent single sample test and one way analysis of variance were used in the analysis of the data.

**Results:** The scores of the cognitive absorptions and all subscale scores of the licensed athletes are unchanged according to sex, age groups, educational status, the year of doing sports and spending material gain. Also according to the branch type, the scores of the athletes' cognitive absorption and of those of doing individual sports in all sub scales are higher than those of the team athletes. The athletes receive the highest score in time sub-scale and that their cognitive absorption levels are moderate.

**Conclusion:** According to the results, the cognitive absorption levels of licensed athletes are moderate, and on the sub scale of the focus of interest, the scores of those perceiving their level of income higher, of club athletes and of team athletes in cognitive absorption and in all sub\_scale is lower.

**Keywords:** Sportsman, Cognitive Absorption, Technology

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## AN INVESTIGATION OF BODY PERCEPTION OF DISABLED ATHLETES

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**Background:** Body perception is our own body image shaped in our mind. Body perception, the entirety of mental designs of body organs, forms the “self” opinion and self has a fundamental significance for subsequent shaping of ego. Sportive activities reinforce self-confidence, self-respect and body satisfaction of persons. The aim of this study was to reveal body perceptions of disabled athletes and to investigate them based on some variables.

**Method:** This study is a quantitative research including 185 disabled athletes. “Body Perception Scale” developed by Secord and Jourard (1953) and adapted to Turkish by Hovardoglu (1993) was used to derive data. The internal consistency coefficient of the scale is 0.91, and it was 0.95 in this research. One sample test and one-way analysis of variance was used for data analysis.

**Results:** Body perception of disabled athletes did not change based on the age groups, education level, disability generation time and level, and women's perception was higher than that of men, the athletes who had intermediate and low income levels, had 1-2 year of sports experience, did not gain monetary gain from sports had higher perception. Body perception scores of the athletes were 147.95±25.74.

**Conclusion:** Body perceptions of disabled athletes were positive and male athletes, the athletes who had high income level, had longer experience, and gained monetary gain from sports were more pleased about their body.

**Keywords:** athlete, physically disabled, body perception

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## EXPECTATIONS OF STUDENTS GOING TO SPORTS SCHOOLS, BEHAVIOR CHANGING OBSERVED ON THOSE CHILDREN AND OBSTACLES AGAINST JOINING SPORT ACTIVITIES

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**Aim:** The aim of this study was to evaluate expectations of students going to sports schools, detecting behavioral changing observed by their parents and finding out what obstacles there are against joining sports activities, in Ankara province.

**Methods:** A questionnaires was applied to the parents of whose children were attending any kind of sports activities. In the evaluation of ideas from the children who engage with sports in the school, frequency distribution (f) and percentage (%) were used with SPSS 23.0.

**Results:** According to primary purposes; 20.9% for “learning to compete and competitiveness”, 18.4% for “fun”, 10% for “team spirit” and 9.9% for “friend and acquaintance” “5.2% to” get regular exercise habits”. According to primary risks; “time constraints” with 58.5%, “preparation for exams” with 19.3%, “lack of sports halls and bays” with 13.2% and “cost of sports goods” with 5.2%.

**Conclusions:** This research showed that children's expectations and the parents' expectations don't fit to each other and make conflicts between them. While “enjoying” is one of the most important motivations for beginning a sports activity for children, the concept of “enjoying” doesn't have too much importance to initiate their children to any sports activity for parents.

**Keywords:** parent, child, sport, expectations

## EFFECT OF ISCHEMIC PRECONDITIONING ON LACTATE ACCUMULATION AND ANAEROBIC PERFORMANCE IN PHYSICALLY ACTIVE INDIVIDUALS

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**Background:** Ischemic preconditioning (IPC) protects myocardium against ischemic reperfusion myocardial damage. IPC consists of short repeated periods of ischemia followed by reperfusion. Recent years IPC has become an attractive investigation issue. Many studies examined the effects of IPC on exercise performance. Generally studies assumed that IPC may have a positive effect on running economy, endurance, sprint performance, resistance exercise performance and physiological response especially heart rate and blood lactate levels in different populations. The aim of this study was to determine the effect of IPC on anaerobic power and capacity in physically active individuals.

**Methods:** Twenty-three physically active males (age: 21,42±1,64 yr; height 176,07±7,92 cm; weight 70,11±4,94 kg; Blood pressure: systolic 118,4±8,0 mmHg, diastolic 76,9±6,3 mmHg) voluntarily participated in this study. The anaerobic performance was tested with the 30-second Wingate Test Protocol. IPC protocol was performed with 220 mmHg bilateral arterial occlusion on both legs with manual pressure cuffs. 5 min bilateral arterial occlusion was applied 3 times interspersed with 5 min of reperfusion. To determine the effects of IPC on anaerobic performance, participants joined pre and post tests. Blood Lactate samples were taken before and after applications. Paired sample T-Test was used to determine differences between pre and post tests.

**Results:** No significant difference was detected in anaerobic performance outputs (Relative Peak Power  $t=0.064$ ,  $p=0.950$ , Relative Mean Power  $t=0.151$ ,  $p=0.881$ , Power Drop %  $t=.328$ ,  $p=0.746$ ).

**Conclusion:** The application of IPC did not improve significantly any parameters of anaerobic performance. However, IPC had a positive effect on post-exercise lactate level (15,32%).

**Keywords:** Anaerobic Performance, Physically Active, Ischemic Preconditioning, Blood Lactate.

## A SCRUTINY ON THE EMPATHIZING LEVELS OF HANDBALL SPORTSPEOPLE

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**Aim:** This study has been conducted for the purpose of determining the empathizing levels of handball sportspeople and of revealing whether their empathizing levels vary in line with demographic aspects.

**Methods:** Empathic Tendency Scale (EEÖ) developed by Dökmen (1988) was applied to 109 sportspeople taking part in the Handball 1<sup>st</sup> League competitions held by Turkish University Sports Federation between the dates of 18 and 22 April 2017 in the province of Antalya. In the statistical assessment of the data obtained, Anova and t tests were used as they exhibited a parametric distribution.

**Results:** In consequence of the study conducted, the empathizing levels of the students studying at Physical Education and Sports School of Higher Education were found as  $\bar{X} = 67,7064$ .

**Conclusion:** It was determined that the empathizing levels of the handball sportspeople were above the moderate level in consideration of the lowest and highest value that can be received from the scale.

**Keywords:** handball, university, empathy

## STUDY ON CONSUMERS' LEVELS OF SATISFACTION CONCERNING THE PROBIO NATURAL SUPPLEMENT HANDLING

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**Aim:** The purpose of the research was to highlight the degree of satisfaction with the use of ProBio in order to improve the health status and implicitly the quality of life on a sample of subjects who have used this product for a minimum of 3 months.

**Methods:** The study included a 10-item questionnaire with Linckert (3) assessment of ProBio satisfaction, 60 subjects, 24 men (40%) and 36 women (60%) mean age ± SD 57.60 ± 14.65. The statistical analysis included: arithmetic mean, standard deviation (SD), t-student test, Kolmogorov-Smirnov Test (Z) for the normality data, significance assumed was  $p < .05$ .

**Results:** The average number that rated the satisfaction assessment questionnaire for using ProBio with the maximum score (3) were: 52.8 subjects, representing 88%; with note 2 were 5,5 subjects, representing 10,306% and with the 1<sup>st</sup> item, representing 1,70%.

**Conclusions:** A unique product on the Romanian market, proBio is a preparation made after an original recipe. This nutritional supplement combines the beneficial effects of Green Barley and Green Wheat powders with those of herbs recognized as sources of energy and vitality: Ginger, Siberian Ginseng and Spirulina.

**Keywords:** ProBio, satisfaction, health, nutritive supplement

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## DEVELOPING PROACTIVE BEHAVIOR THROUGH AN OPTIMAL PE ENVIRONMENT

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**Background:** A qualitative management of physical education is dependent of learning environments including varied and safe physical and social environments for pupils and teachers. The management of PE environment aim orientation and coordination of the subjects in varied physical exercise to improve movement and quality of life indices.

**Methods:** For benefiting from their key skills and ensure the portability of educational activity, it is recommended that the teaching strategies used in teaching physical education to focus on: the progressive construction of knowledge, flexible approaches, coherence and inter- and transdisciplinary approaches.

**Results:** From the perspective of an educational approach focused on skills, it is recommended valuing learning outcomes by reference to physical progress of each student, depending on the particular classroom, the material the school has, environment of physical activities and students' options. PE environment exploit examples of learning activities to enable transition from focusing on content, to learning experiences.

**Conclusions:** To maximize the contribution of early physical education to the development of lifelong proactive behaviours, content, media, methodology and learning resources should be flexible and opened to the diverse needs of children. Planning, management and coordination of physical activity in relation to the main objectives of physical education, the natural environment or set of work or lessons and children's peculiarities are the main directions of quality PE management.

**Keywords:** early physical activity, environment, strategy

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## THE IMPORTANCE OF GROUP COHESION AND FINDING THE RIGHT LEADER OF THE TEAM

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**Aim:** Our research aimed to observe and analyze the relationships created in a male volleyball team, discovering the sympathetic relationships among our players, the mutual choice or mutual rejections between group members. The relationships observed in our group revealed the dynamics of our team, the structure of the organization and the hierarchy. Analyzing the results, we discovered the leader of the team, the individuals rejected by the group, the group cohesion, and status of each member in the team. Also, we found that the formal leader, named by the coach, matches the leader choose the group. The group formed by 12 volleyball players, aged between 10 and 12, that play in the male national youth championship.

**Methods:** The methods used in our research were the observation method made in every training and match using observation sheets, the survey method with the socio-metric test used to analyze the relationships and group structure.

**Results:** The results of our research showed that the socio-metric test confirmed our presumptions and we can see that leaders of our group are SS (8), with a social index of 0.60, and EG (5), with a social index of 0.55. The cohesiveness of our group is good, with 8 mutual election and 4 mutual rejections, the coefficient of the group cohesion is 0.08, and also the Index of group cohesion is 0.04.

**Conclusions:** The conclusions of our study showed that our group has the right leader and good cohesiveness.

**Keywords:** leader of the team, group cohesion, volleyball

## INVESTIGATION OF GROUP DIFFERENCES BETWEEN HIGH SCHOOL STUDENTS WITH AND WITHOUT SPORT LICENSE, IN TERMS OF STUDENT PERSONAL RESPONSIBILITY AND OSTRACISM EXPERIENCE

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**Aim:** The goal of the study was to examine the group differences in terms of having sport license in student personal responsibility and ostracism experience scores in Turkish high school education settings.

**Methods:** The sample of the current research consisted of 386 high school students (181 male and 199 female; mean age = 16.11, SD = 1.02). The data were obtained by using Turkish version of Student Personal Responsibility Scale (Dogan, 2014) and Turkish version of Ostracism Experience questionnaire (Akin, Uysal, & Akin, 2015). For data analysis, Pearson-product moment correlation and independent sample t-test were employed.

**Results:** The study findings indicated that there was not statistically significant correlation between the participants' personal responsibility and ostracism experience ( $r = .07, p = .18$ ). Unexpectedly, Students with sport license ( $X = 25.58, SD = 3.84$ ) tended to be personally less; but not statistically significant, responsible than the others with no sport license ( $X = 26.45, SD = 3.74$ ),  $t(384) = 1.87, p = .059$ . Furthermore, we did find that there was a statistically significant difference between high school students with sport license ( $X = 31.18, SD = 6.50$ ) and their peers with no license ( $X = 29.64, SD = 5.93$  in terms of ostracism experiences,  $t(384) = 2.07, p < .05$ ).

**Conclusion:** Inconsistent with the literature, the findings indicated that high school students with any sports license reported less personal responsibility and more ostracism experiences than their peers in the current research. The study limitation and future directions were discussed.

**Keywords:** correlation, personal responsibility, ostracism experience

## A SCRUTINY ON THE INTERNET ADDICTION LEVELS OF THE STUDENTS STUDYING AT THE PHYSICAL EDUCATION AND SPORTS SCHOOL OF HIGHER EDUCATION

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**Aim:** This study has been conducted for the purpose of determining the internet use levels of the students studying at the Physical Education and Sports School of Higher Education and of revealing whether their internet use levels vary in line with demographic aspects.

**Methods:** Internet Addiction Scale developed by Kimberly Young (1996) and adapted to Turkish by Bayraktar (2001) was applied to 226 students studying at Karamanoğlu Mehmetbey University Physical Education and Sports School of Higher Education in the study.

**Results:** In consequence of the study conducted, the internet use levels of the students studying at Physical Education and Sports School of Higher Education were found as  $\bar{X} = 31,0929$ .

**Conclusion:** The lowest and highest value that can be received from the scale, the students were internet addicts at low level; in other words, they were “moderate internet users” experiencing no problem in terms of internet use in life.

**Keywords:** internet addiction, student, physical Education, sport

## EFFECT OF DIETETIC MANAGEMENT UPON PROTEIN, LIPID AND CARBOHYDRATE INTAKE AND METABOLISM IN PATIENTS WITH OBESITY

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**Background:** Nutrition education and lifestyle counseling should be adapted to individual needs and delivered in a patient-centered unit. Education can be delivered both to individual and family and in small group settings. Lipid, protein and carbohydrates metabolism was studied in patients with alimentary obesity in 2016.

**Methods:** We examined 30 obese patients (20 women and 10 men) from Cimislia, between 52 and 62 years old, regarding their serological parameters levels linked to metabolism status.

**Results:** The majority showed an increased content of all lipid, lipids fractions (phospholipids, cholesterol, free fatty acids, triglyceridies), very low and low density lipids, and a reduced content of high density lipoproteins. A normal lipoproteinemia was only ascertained in 15.8% of the patients. Hyperlipoproteinemia-IIa was detected in 15.8% of the patients. Hyperlipoproteinemia-IIb in 8.4% and Hyperlipoproteinemia-IV in 24.6% of the patients. Disorders of the glucose tolerance test-GTT were revealed in 18% of the patients. Of these, 8.3% had low curves of the GTT, 4.9% questionable, and 6.4% of the patients manifested diabetic curves. In addition, all the patients had an increased basal level of immunoreactive insulin. Hyperproteinemia was discovered in 59.8%, hyperalbuminemia in 67.8%, and dysglobulinemia in 62% to 78% of the patients.

**Conclusion:** Apart from an appreciable excess body weight, the dietetic management produced the normalization and improvement of the indicators under study in the overwhelming majority of the patients.

**Keywords:** obesity, metabolism, hyperlipoproteinemia, lipid

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## PERSONALITY OF CHARACTERISTICS OF THE INDIVIDUALS WHO MADE THE SPORT OF JUDO EXAMINED IN TERMS OF DIFFERENT VARIABLES

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**Aim:** The purpose of this study was to investigate the personality characteristics of the individuals who made the sport of judo according to different variables.

**Methods:** A descriptive scanning model was used in the study. Research study group ongoing in the province of Kahramanmaraş in 2017 athlete as sports clubs comprise a total of 35 athletes. Eysenck Personality Inventory was used to determine the personality traits with the “Personal Information Form” prepared by the investigator. Arithmetic mean, standard deviation, t test and one way analysis of variance were performed on the collected data ( $p < 0.05$ ).

**Conclusion:** It was concluded that the variable is not significantly different, the profession and gender of the participants according to the obtained results.

**Keywords:** personality, judo, sports

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## THE EFFECT OF ISCHEMIC PRECONDITIONING ON HIGH INTENSITY INTERVAL TRAINING PERFORMANCE AND RECOVERY IN BADMINTON PLAYERS

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The **aim** of this study was to examine the effect of ischemic preconditioning (IPC) on high intensity interval training and recovery parameters on badminton players.

**Method:** Sixteen well trained badminton players (10 males and 6 females, age:  $18.90 \pm 0.99 / 20.33 \pm 1.75$  years; height:  $176.50 \pm 5.42$ ,  $159.33 \pm 3.61$  cm; body weight:  $72.55 \pm 7.93$ ,  $54.93 \pm 4.53$  kg; systolic blood pressure:  $12.30 \pm 1.15$ ,  $11.16 \pm 1.47$  mmHg; diastolic blood pressure:  $7.80 \pm 1.22$ ,  $7.66 \pm 0.81$  mmHg) voluntarily participated into this study. Participants came to laboratory and rested for at least 30 minutes heart rate (HR) and blood lactate concentration (BLAC) and blood pressure (BP) values were evaluated. HR, BLAC and BP values were measured after, 12 and 30 minute after exhaustion. The Wingate Style high intensity interval training (HIIT) workout was conducted to generate physiological fatigue. The HIIT protocol was involved 30 seconds of “all-out” cycling 3 times with 4 minutes rest against a high resistance which corresponded to 7.5% of body weight of the participants. Relative Peak Power (PP), Relative Mean Power (MP) and Power Drop (PD%) were evaluated for each repeated trail to execute HITT performance. In the second measurement before warm up 3 set  $\times$  5 min, 220 mmHg IPC was conducted. 72 hours rest was given between measurements.

**Results** showed that IPC had statistically negative effect on the first trail HITT performance on PP ( $p=0.031$ ), AP ( $p=0.009$ ) and recovery BLAC 12 minute ( $p=0.012$ ). The other variables had no effect ( $p>0.05$ ). The impact of IPC were -6.5%, -5.8% and 24.5%, respectively.

**Conclusion:** According to these results we assumed that IPC applications cannot be used as an enhancing performance method in badminton players.

**Keywords:** Recovery, High Intensity Interval Training, Ischemic Preconditioning

## DOES HIGH SCHOOL STUDENTS' PARENTAL INTEREST IN SPORTS MATTER IN DEVELOPING STUDENTS' PERSONAL RESPONSIBILITY, OSTRACISM EXPERIENCE, AND RESILIENCE?

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**Aim:** The goal of the study was to examine the group differences in terms of parental interest in high school students' personal responsibility, ostracism experience, and resilience scores in Turkish high school education settings.

**Methods:** The sample of the current research consisted of 386 high school students (181 male and 199 female; mean age = 16.11, SD = 1.02). The data were obtained by using Turkish version of Student Personal Responsibility Scale (Dogan, 2014), Turkish version of Ostracism Experience questionnaire (Akin, Uysal, & Akin, 2015), and Turkish version of Resilience scale. For data analysis, several independent sample t-test were employed.

**Results:** The study findings indicated that there was not any statistically significant parental interest in sports group differences in student personal responsibility, ostracism experience, and resilience. However, students with parental interests in sports ( $X = 47.60$ ,  $SD = 7.61$ ) had higher resilience scores than the others with non-parental interests in sports ( $X = 46.97$ ,  $SD = 8.75$ ). On the other hand, students with parental interest group ( $X = 24.36$ ,  $SD = 6.12$ ) had lower student personal responsibility scores than their peers ( $X = 25.12$ ,  $SD = 6.44$ ). Unexpectedly, high school students with non-parental interest in sports ( $X = 29.71$ ,  $SD = 6.04$ ) had lower ostracism experience scores than the others ( $X = 30.35$ ,  $SD = 6.14$ ).

**Conclusion:** Inconsistent with the literature, the findings indicated that there was any statistically significant group difference, in expected way, in terms of parental interests in sports for students' personal responsibility, ostracism experiences, and resilience scores. The study limitation and future directions were discussed.

**Keywords:** responsibility, ostracism experience, resilience, students.

## EXAMINATION OF THE COMMUNICATION SKILLS AND TEAM WORKABILITY OF SPORTS STUDENTS ACCORDING TO VARIOUS VARIABLES

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**Aim:** The aim of this study is to examine the communication skills and team workability of students who educated on sports education in universities according to various variables.

**Method:** In our study, personal information form was used to identify the university, department, class and sports branches of participants. Communication skills scale developed by Ersanlı and Balcı in 1998 was used to determine communication skills. For the determination of team workability, the Team Workability Scale was developed by Tuncer in 2008 was used. 165 Students from Atatürk and Kafkas University participated in the study. Frequency analysis and parametric statistical analyzes were used.

**Results:** As a result of the study, it was determined that the participants had moderate levels ( $X=3.56\pm0.861$ ) of communication skills and the majority of the participants have responsibility on team workability (64%). The communication skills that the participants have the highest average are the mental skills. ( $X=3.86\pm0.414$ ). The lowest average of the communication skills of the participants are behavioral. ( $X=2.44\pm0.616$ ). On the other hand, it has been determined that the team sports athletes of participants have high averages on Collaboration and Teamwork in the team workability (59.39%).

**Conclusion:** According to the variables of the communication skills and team workability of the students who educated sports education in universities, the communication skills levels did not change statistically according to the universities and departments variables of the participants.

**Keywords:** communication skills, team workability, sports students



## INVESTIGATION OF ATHLETES’S EATING ATTITUDE

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**Aim:** The main aim of the current research was to investigate eating habits of the athletes who do physical exercise actively.

**Method:** A total of 161 university students participated in this research, who were between the ages of 19±1.86 majoring at the Faculty of Sport Sciences at Atatürk University in Erzurum. Two different types of scales were used for the purposes of the study and these scales were administered to participants during data collection procedure. Firstly, ID form was given to participants in order to obtain personal information and secondly Eating Attitude Test (EAT) was applied to participants in order to determine their eating disorders and eating attitude. For data analysis, SPSS 22.0 was used and for statistical analysis, significance level was determined to be  $p < 0.05$ .

**Results:** Based on the results of this research, it was revealed that participants’ EAT levels were found to be fairly high. Based on this result, it can be said that athletes have eating disorders.

**Conclusion:** Nevertheless, it was found out that there were statistically no significant differences in EAT levels according to family income state, residential address, smoking and alcohol use.

**Keywords:** attitude, nutrition, athlete, sport

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## THE EFFECTS OF EXERCISE ON QUALITY OF LIFE IN INDIVIDUALS OVER 50 YEARS OF AGE

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**Aim:** The purpose of this study was to examine the effects of exercise on quality of life in individuals over 50 years of age. The importance of the study is to determine the level of quality of life in individuals who exercise and do not exercise.

**Methods:** The sample consists of individuals over the age of 50, 62 individuals exercising and 83 individuals not exercising in the city of Keçioren, Ankara province. Validity and reliability studies were conducted in Turkey and WHO Quality of Life Scale brief form (WHOQOLBREF) questionnaire was applied. The data of the study were evaluated in the SPSS 23.

**Results:** According to the study, the physical field average of those exercising was 12.11±1.32, the psychological field was 13.26±2.07, the social field was 12.55±3.29, and the environmental field was found to be 13.00±3.32. It was determined that the physical field of those who do not exercise is 11,80±1,59, the psychological field is 12,51±2,05, the social field is 11,55±3,65, and the environmental field is 11,41±2,99.

**Conclusions:** As a result of comparing the quality of life’s sub-dimensions of the individuals who did and did not exercise, there were no significant differences in physical and social field. The score of the quality of life of the group doing exercise is higher. Besides, the body weight of those who exercise is lower, and accordingly, the body mass index values are closer to normal. According to this research, the group exercising is more satisfied with their quality of life and more satisfied with their health.

**Keywords:** exercise, life quality, age

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## THE INVESTIGATION OF STRESS COPING SITUATIONS OF SPORTS SCIENCE FACULTY STUDENTS

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**Aim:** The aim of this study is to examine the investigation of stress coping situations of sports science faculty students.

**Method:** 400 students of sport sciences from Muğla Sıtkı Koçman University fulfilled the Students Information Form and Styles of Coping with Stress Scale with two and: first with 8 factors and second state with 5 factors. For statistical analysis we used SPSS 23.

**Results:** According to the results of the answers given by the students who participated in the research; Students were 38% female and 62% male. Age were 59.5% 22 years old, 14% 21 years old and 18.8% 20 years old. Students are interested in 42,5% individual sports and 57,5% team sports.

**Conclusions:** According to age, sexes, departments and branch (individual and team sport); there was no significant difference between

factors: self-confident and helpless; optimistic, submissive and searching social support ( $p>0,05$ ). Individuals who are interested in individual sports have higher levels of stress. Male stress levels are higher.

**Keywords:** Stress, Stress management, Students, Sports.

## THE INVESTIGATION OF ASSERTIVENESS LEVEL OF SPORTS SCIENCE AT FACULTY STUDENTS

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**Aim:** The aim of this study was to examine the investigation of assertiveness level of sports science faculty students.

**Methods:** The research sample consists of 400 sport science faculty students in Muğla Sıtkı Koçman University, in 2016-2017 spring term and selected by the random sampling method. The data collecting materials were the Rathus Assertiveness Inventory (RAI) for the scores of assertiveness. Rathus Assertiveness Inventory (RAE) consists of 30 items. Positive and negative expressions exist. Their score is also different. Rathus initiative Inventory was used to determine personal differences in initiative reflects of different attitudes in daily situation (S.A.Rathus, 1973). Rathus initiative Inventory is a 30 items scale. Gathering points are changeable between -90 and +90. Person evaluates himself for each item from +3 to -3 total 6 items scale. Person's total point is between +90 and -90, (-90 the highest shyness, +90 the highest initiative),  $\pm 10$  points and up points determine initiative. Choices are changeable between -3 and +3 and there is no zero point. Some answers can do opposite and it makes giving true answers difficulties. Data collected and analysed SPSS 23.

**Results:** 38% of students were female and 62% males, age categories (59.5% of 22 years old, 14% of 21 and 18.8% of 20 years old). Students interest: 42,5% individual sports and 57,5% team sports. According to age, gender, departments and branch (individual and team sport), there was no significant difference between assertiveness levels ( $p>0,05$ ).

**Conclusions:** Sport training process can improve: assertiveness, self-esteem, self-confidence, interpersonal communication and interactions capacities. In the same time the social anxiety can decrease through sport activities

**Keywords:** assertiveness, shyness, students, sports

## COMPARISON OF SPORTING HABITS OF BOARDING AND DAY STUDENTS

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**Aim:** The purpose of this study was to determine sports habits of the students of boarding and day students.

**Methods:** A total of 1344 students, 700 males and 644 females attending Samsun, voluntarily participated in the research. In the study, 6th, 7th and 8th grade students studying, 843 were in boarding schools and 501 were in day schools. A 15-question questionnaire was applied under observation to determine demographic characteristics and sports habits. Obtained data had been evaluated with the version of SPSS 10.0.. Chi-square test and Fisher's definite test was used for the statistical analyze method. The statistical relation level is  $p<0.05$ .

**Results:** The average age of the participants was determined as  $12,64 \pm 1,6$ . There was a statistically significant difference between the participants in terms of sports activities ( $p < 0.05$ ).

**Conclusions:** It has been found that the participation of the boarding school students in sporting activities is less than that of the students in day schools.

**Keywords:** boarding, education, sport habits

## THE ROLE OF KINESIOLOGY TAPES ON THE SHOULDER JOINT AT SENIOR VOLLEYBALL PLAYERS

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**Aim:** The purpose of the study aims at finding the motor effects induced by using kinesio taping in the rehabilitation program of scapulo-humeral joint diseases of A Division volleyball athletes.

**Methods:** Length of research: April -May 2017, during play-off time, after completing the championship. Participants: 3 senior volleyball play-

ers, aged 19-24 years, diagnosed with scapula-humeral impingement. The rehabilitation program included: 15 session of individual medical gymnastics and 12 staggered days when kinesio tapes were applied. A pretest was done the first day after diagnosing and a posttest the next day after the completion of the rehabilitation program. The questionnaire Disabilities of the Arm, Shoulder and Hand was applied to module sports that included 4 items concerning difficulties of technical execution, pain, efficiency and length of practice.

**Results:** Relevant improvements concerning the ability to practise the volleyball game by calculating the DASH score of 26.25% to IR player, of 43.75% to TS player and of 50.02% to ILR player.

**Conclusions:** Using Kinesiology tapes in conjunction with an appropriate medical gymnastics program, has beneficial effects on reducing stiffness in the case of impingement, significantly restoring the scapulohumeral joint mobility at a division volleyball players. In the areas where there is a frictional contact which proved to be problematic for using the tapes there were injuries or partial detachments of the tapes.

**Keywords:** volleyball players, impingement, Kinesio-Taping, motricity, medical gymnastics

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## METAPHORIC PERCEPTIONS OF UNIVERSITY STUDENTS ABOUT OBESITY CONCEPT

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**Background:** Metaphor is the label, meaning or conceptual statements formed by a concept and is a seeing and comprehension process. It is a more important and strong mental production than an explanation of a concept made by another concept because it expresses the depth and experiences for the related concept. Hence, it is an effective method to reveal perceptions of individuals. The aim was to determine metaphoric perceptions of university students about the obesity concept.

**Methods:** Phenomenology pattern was used in the qualitative model scope. Homogeneity, variability and conformity were considered under sampling the study group consisting of 62 students enrolled at different faculties in Gazi University and did not take sports, health, nutrition or similar classes previously. The research data were collected by a metaphor form including the statement “obesity is like... because ...”.

**Results:** The students generated 48 types of metaphors for the “obesity” concept and stated 62 opinions. The metaphors focused on permanent illness/torment/oppression and separation/carelessness/inconsideration/regret/pessimism/death/virus. Common features of the students were gathered in four categories based on their statements about metaphors on obesity, namely self-destructive behavior emphasis (7 metaphores-13.0%), social isolation emphasis (5-9.2%), emotional and psychological deterioration emphasis (29-53.7%) and physical health deterioration emphasis (13-24.1%). Students expressed rich, meaningful and different metaphors and statements about obesity. 48 metaphors, gathered in 4 categories, were assessed.

**Conclusion:** More than half of the participants stated opinions, and “emotional and psychological deterioration emphasis” had the most metaphor variety. All participants developed negative metaphors.

**Keywords:** obesity, metaphor, student

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## THE ADVANTAGES OF VEGETAL SPROUTS CONSUMPTION IN THE MODERN DIET

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**Background:** In the modern society's alimentation there has been an increasing tendency to consume raw food like vegetal sprouts. Different types of sprouts add nutritional value, taste and texture in meals. The enzymatic system in grain, convert, during the germination process, the deposit substances in ones easier to assimilate like: amino acids, glucose, fatty acids and glycerin facilitating the digestion.

**Methods:** We have conducted a bibliographic study looking for specialized sites articles, from recent years, on the advantages of sprouts consumption in the omnivorous, vegetarian and in the athlete's diets.

**Results:** The potential effect of germ protection against cancer and their active components have been studied in several in vivo and studies, the results show a possible positive correlation between preventing multiple types of cancer and sprout consumption. These foods have high nutritional quality, are rich in vitamins, minerals, fibers, have antioxidant properties, have high enzyme activity, low calorie content, high levels of free amino acids and proteins, contain phenolic phytochemicals substances.

**Conclusions:** The use of vegetal germs in the modern diet is more and more widespread because they are rich in bioactive compounds with health benefits. They are recommended in all diets without restrictions.

**Keywords:** sprouts, enzymes, diets, quality

## THE RELATIONSHIP BETWEEN BODY COMPOSITION AND SOME PERFORMANCE VARIABLES IN CADET JUDO ATHLETES

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**Aim:** The aim of this study was to investigate relationship between body composition and anaerobic power, jump and strength variables in international level cadet judo athletes.

**Methods:** 10 cadet judo athletes (aged between 13 and 16) voluntarily participated in this study. Body compositions of the athletes were determined with bioelectrical impedance device (Tanita MC-980). Squat and active jumps were carried out by using Optojump and a treadmill (Monark) was used for Wingate anaerobic power test. Statistical significance was set at a  $p < 0.05$  level and data are expressed as mean  $\pm$  standard error of the mean. The relationship between the variables was investigated by using Pearson's correlation coefficient.

**Results:** No relationship was found between body composition and squat jump, active jump and elastic strength ( $p > 0.05$ ). A highly significant positive relationship was determined between bodyweight, body mass index and fat-free mass and peak power, relative power values of the athletes ( $p < 0.01$ ). Interestingly, there was no significant relationship between jump and anaerobic power variables of the athletes ( $p > 0.05$ ).

**Conclusions:** As a result, although the low number of participants was an important factor which affected correlation coefficient, it was observed that fat-free mass affected anaerobic performance in a positive way, squat and active jumps were not affected by body composition in cadet judo athletes though they include strength and anaerobic power parameters.

**Keywords:** body composition, strength, anaerobic power, anaerobic performance

## TESTOSTERONE RESPONSES TO EXHAUSTING EXERCISE IN MALES AND FEMALES

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**Background:** Most previous studies in the literature indicated that high intensity training is a powerful stimulus for acute increases in blood steroid hormone levels of males. The testosterone responses to exercise on females are controversial because in some studies there were increases and in others there was no change. The aim of this study was to determine alterations in serum concentrations of testosterone after an exhausting exercise in males and females.

**Methods and results:** Eight physically active males (age:  $22,25 \pm 1,49$  yr; height  $177,62 \pm 1,87$  cm; weight  $74,97 \pm 3,32$  kg) and eight physically active females (age:  $19,87 \pm 1,45$  year; height  $161,87 \pm 3,18$  cm; weight  $57,91 \pm 7,33$  kg) voluntarily participated in this study. Using a cycle ergometer with 60 rpm constant pedal speed, the test of 15 W for 3 minute after warm-up. Before and immediately after the exhaustion exercise we collected 5 cc. venous blood samples. Statistical evaluation with SPSS 13, for  $p < 0.05$  and  $p < 0.01$ .

**Conclusion:** In conclusion, our study demonstrates that exhausting exercise has some effects on the total testosterone profiles of both males and females.

**Keywords:** testosterone, exhausting exercise, athletes

## INVESTIGATION AND COMPARISON OF PSYCHOLOGICAL RESISTANCE LEVELS OF TENNIS AND BASKETBALL SPORTS

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**Aim:** The primary aim of this study is to identify and compare the psychological resilience level of tennis and basketball players playing at university teams. Secondly, it examines whether age, sport age, sex, parents' educational level and licensed player parameters affect the player's psychological resilience level or not.

**Methods:** This study is limited to the basketball and tennis players playing at Turkey Interuniversity League 1, in 2013-2014. The research was made to define the psychological resilience levels of players using single screening model. Samples consisted of 161 basketball players and 60 tennis players, chosen by random sampling method. To define the psychological resilience level the dependent variables of "Psychological resilience Scale" was used. SPSS 20 pack program is used in all statistical analysis and the meaningfulness is acknowledged at 0.05 levels.

**Results:** According to the results, tennis players' sub dimensions of structural style, future perception, social ability and psychological resilience are better than basketball players'. Psychological resilience of tennis and basketball players is not affected by chronological age and sport age.

**Conclusions:** The structural style and psychological resilience sub-dimension of players are connected with their mothers' educational level, having mothers who graduated a secondary school or a bachelor's degree induced a better strength level. Female players are more successful than male ones in the perception of total psychological resilience and the sub-dimensions of family conformity, social ability and social resources. Licensed players are more successful than all the sub-dimensions of psychological resilience except for the structural style and family conformity sub-dimensions.

**Keywords:** psychological resilience, sports psychology, university sports, basketball, tennis

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## THE EVALUATION OF THE DISTRIBUTION MENUS IN THE CANTEENS OF PRE-SCHOOL INSTITUTIONS

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**Aim:** The evaluation of the distribution menus in the canteens of pre-school institutions in Chişinău, Republic of Moldova.

**Methods:** Twenty distribution menus from two preschool education institutions, with a capacity of 210 children, between 3-7 years old, in 2016-2017 were studied. Using the statistical data processing method, there have been calculated the protein, lipid, carbohydrate, mineral salts and vitamin for main meals (breakfast, lunch, quinces, dinner), with the help of the „Chemical composition and energy value of food” tables.

**Results:** The protein consumption during meals was insufficient 60.47 g (89%), which is 7.53 g (11%) less than the 68 g norm (100%). The amount of lipids from breakfast, lunch, quinces and dinner showed a significant gap between the actual consumption and the normal value. In total, children consume 43.34 g of lipids per day (63.73%), with 24.66 g (36.27%) less than the norm. Carbohydrate consumption for main meals was in excess. The amount of carbohydrate consumed per day is equal to 360.71 g, with 32.6% more than the norm (272 g) of carbohydrates. The amount of vitamin C was 78.21 mg (normalized 50 mg/day), calcium - 597.86 mg (normalized 1200 mg/day), phosphorus - 1124.38 mg (normalized 1450 mg/day).

**Conclusions:** Children are provided with an insufficient amount of protein and lipids and excess carbohydrates, which can lead to various problems in the process of harmonious growth and development of children.

**Keywords:** diet, distribution menu, pre-school institutions, preschoolers

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## SELF-ASSESSMENT OF HEALTH STATUS IN ADOLESCENT ATHLETES

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**Objective:** The purpose of this study was to assess the health status of junior basketball and volleyball athletes.

**Methods:** The study was conducted on a group of 54 adolescent athletes practicing basketball and volleyball, aged 13-18 years from a sports club in Chisinau. The working tool was the questionnaire on the health of athletes. Statistical data processing was performed using a database implemented with SPSS.

**Results:** Most athletes (72.4%) appreciated their health as good, 24.3% as satisfactory and 3.3% did not know what to answer. 89.5% of athletes practiced basketball and 92% of volleyball players did not suffer from chronic illness. However, 10.5% of the basketball players and 4% of the volleyball players mentioned that they suffer from some chronic diseases and 4% of the volleyball players did not know if they suffer or not from any chronic illness. Regarding the frequency of illness over the last year, we noticed that most athletes, 52.6% of the basketball players and 48% of the volleyball players were sick 1-2 times during the year. It should be noted that only 21.2% of basketball players and 24% of volleyball players haven't been ill during the last year.

**Conclusion:** It is necessary to monitor the health of athletes by periodic medical examinations for the early detection of diseases, preventing illness and developing appropriate health education measures.

**Keywords:** health status, adolescent, athletes, health promotion

## SPORTS ADAPTED TO PEOPLE WITH SPECIAL NEEDS

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**Aim:** Our study started with the following objectives: maintaining and improving the arm's muscular strength, implementing recreational activities outside of the educational program by applying an adapted version of volleyball. The hypothesis of the study: the implementation of the adapted volleyball program will lead to an increase in muscular strength of the fingers.

**Methods:** Time and place of the study: School Centers in Mureş County, between September 2014 - September 2015. The subjects of the study: 60 kids with special educational needs divided into two groups: experimental group of 30 subjects, control group of 30 subjects. During the study, the subjects participated in two series of evaluations, an initial and a final one, applying the dynamometric evaluation on both hands, 3 times.

**Results:** The statistical analysis of the results have been analyzed with the SPSS16 program, resulting in: at the initial evaluation of the left hand, there were no significant differences between the two groups, while at the final evaluation, the experimental group had better values all 3 times tested ( $p < 0.05$ ); at the initial evaluation of the right hand, there were no significant differences between the two groups, while at the final evaluation, the experimental group had better values all 3 times tested ( $p < 0.05$ ).

**Conclusions:** Our hypothesis was confirmed, and we can conclude that adapted physical activities, such as the volleyball adapted to people with special educational needs, have brought on a remarkable improvement in the hands' muscular strength, which will have a positive impact on the aforementioned people's educational process.

**Keywords:** volleyball, kids with special needs, hand strength

## NUTRITION FOR FOOTBALL

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**Aim:** Working with an elite team is a challenge for a nutritionist, as for any sports related professional. In football, as in many other sports, nutrition needs to be a priority of a player's daily program.

**Methods:** What he eats every day, week and month will affect his energy level, performance and overall health. Football is a competitive sport with high intensity effort and the demands on a players' body is important in terms of energy consumption.

**Results:** During a training or a match, a player is in constant motion for 30-45 minutes, depending on age and level of play, followed by a short break and then another 30-45 minutes of constant activity. The average football player can run for about 10-12 km per game, at different speeds. This means that a great amount of energy is used (about 800-1200 kcal) and must be replaced.

**Conclusion:** It is very important that football players eat a well balanced diet high in complex carbohydrates, with an optimal intake of proteins which will help them to maximize their energy levels, to properly recover after effort and perform at their optimal levels.

**Keywords:** football, nutrition, diet, performance

## STUDY ON IMPROVING THE EFFICIENCY IN ATTACK OF THE OPPOSITE VOLLEYBALL PLAYERS BY USING THE STATISTICAL PROGRAM CLICK AND SCOUT

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**Aim:** The purpose of our study consists in using the kind of information provided by the statistical software Click&Scout during a volleyball match, what may assist the progress of the technical and tactical report about the efficiency in the attack of the opposite players.

**Methods:** Our study was performed over a time span of 4 months, from December 2014 to April 2015, in addition to the second stage of the Romanian National Volleyball Championships. In this research, we follow only the opposite players IV and TS, with the aim in observing and calculate a grade based on the statistical attack parameters among the first stage and the second period of the championship.

**Results:** Player IV – Attack / Percentage: efficiency: 1<sup>st</sup> phase of the championship the average was 19% and in 2<sup>nd</sup> phase was 34%; errors: 1<sup>st</sup> phase of the championship, the percentage was 0% and 9% in 2<sup>nd</sup> phase; positive: the rate of positive points in 1<sup>st</sup> period was 9%, and 20% in the 1<sup>st</sup>

phase; perfect: in the early stage of the championship was 37% and 48% in the 2<sup>nd</sup> period.

**Conclusions:** The efficiency of the outcome in the average between the first stage (19%) and the second part (34%) on player IV, those of effectiveness, are superior in the second period of the tournament.

**Keywords:** Volleyball; Statistics; Attack; Opposite.

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## THE CORRELATION BETWEEN PHYSICAL ACTIVITY INDEX AND BMI IN STUDENTS

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**Background:** The relationship between the physical activity level and the body mass index on students are very important to promote an active lifestyle and to combat the obesity and the sedentarism which are two problems current in our days. The study tried to identify the correlation between the index of physical activity and body mass index of students.

**Methods:** Our research had like a method of evaluation the questionnaire. In the study involved 353 participants. We applied the Physical Activity Index questionnaire (IAP) and we measured BMI. Statistical analysis by SPSS.20 to establish the statistically significant correlation.

**Results:** After the evaluation of the IAP questionnaire we discovered that physical activity in general is neglected no matter if the students have normal weight, underweight or overweight. The values of lower physical activity index have dominated the research in all the categories with 78.3% for underweight, 66% normal weight and 53% for overweight. The most significant statistically correlation was between weight and physical activity index where  $r = .848$ .

**Conclusions:** The hypothesis was confirmed and between the physical activity index and body mass index of students from different specializations exist a positive correlation.

**Keywords:** BMI, physical activity index, students, weight, lifestyle

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## INVESTIGATION OF SLEEP QUALITY AND PHYSICAL ACTIVITY HABITS OF UNIVERSITY STUDENTS AT FACULTY OF SPORT SCIENCES

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**Aim:** The purpose of this study was to investigate Sleep Quality and Physical Activity Habits of university students majoring at Sport Sciences Faculty.

**Methods:** The study was conducted with 161 participants between the ages of  $19 \pm 1.86$  who were students at Faculty of Sport Sciences at Atatürk University in Erzurum. Three different types of scales were used for the aims of this research, which consisted of (1) ID (Personal Information) Form prepared by the researchers, (2) Pittsburgh Sleep Quality Index (PSQI) that was administered to participants in order to determine sleep duration and quality of the individuals, and (3) International Physical Activity Questionnaire (IPAQ) that was applied in order to explore their level of physical activity. Data analysis was carried out through SPSS (Version 22) and for statistical analysis, significance level was determined to be  $p < 0.05$ .

**Results:** The results of the study demonstrated that in terms of gender, there were statistically significant differences between male and female participants considering their PSQI and IPAQ levels.

**Conclusion:** Nevertheless, there were no significant differences between PSQI and IPAQ levels according to other variables such as family income state, residential address, smoking, alcohol use. In addition, it was revealed that there was moderate positive correlation between PSQI and IPAQ.

**Keywords:** physical activity, sleep quality, sport

## THE IMPACT OF BEHAVIOR AND FOOD PREFERENCES ON SOMATIC PARAMETERS OF STUDENTS LIFE

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**Aim:** Quality of life is closely related to health status, being influenced by eating habits, physical activity, work environment, relaxation, etc. The aim of the research was to highlight the impact of the quality of life in terms of food behavior, the waist-to-height ratio and BMI of subjects.

**Methods:** The study included 326 students and was conducted between March-July 2017. The mean age of the participants was 22.02±2.63 years. The assessment was based on a questionnaire containing 20 items regarding the impact of food behavior upon the quality of life.

**Results:** Pearson Correlation showed a strong and statistical for  $p=0.01$ , between waist and weight and  $r=0.330$ ; waist and gender  $r=0.623$ ; weight and BMI  $r=0.716$ ; weight and gender  $r=0.266$ ; gender and waist  $r=0.623$ ; also between environment and BMI  $r=0.113$ . Our results highlighted the moderate level of knowledge among Mures students regarding healthy eating principles, most of the subjects having an inadequate dietary behavior, only partially suited to dietary needs.

**Conclusion:** It is important to have a proper and regular community interventions and school education, in order to improve the level of knowledge and also application of healthy and preventive lifestyle principles for young people and reduce the burden of chronic diseases.

**Keywords:** waist, weight, gender, BMI, health.

## USING PROBIO IN THE DIET OF PEOPLE WITH MEDIUM AND HIGH RISK OF OBEZITY

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**Aim:** We proposed a weight reduction of approximately 20% of the initial weight, e.g. from 98 kg to 78 kg (78.4 kg) over a three-months period from January 2017 to the end of March 2017.

**Methods:** The case study included a man 61-year-old diagnosed with type II obesity; IMC 36. For 3 months, ProBio was administered and dietary balancing was carried out according to the evolution, needs and purpose proposed, monitoring the anthropometric parameters: weight, IMC.

**Results:** At a weight of approximately 78 kg, after a weight loss of approximately 19.6 kg, this person's BMI will have a value of 28.80 repositioning him in the overweight category.

**Conclusions:** Therefore, it is necessary for this person to undergo a daily diet containing foods with low glycemic index. It is also necessary to introduce physical activities into his daily activities during which the subject takes moderate effort (walking on running tape or out for at least 45 minutes

**Keywords:** overweight, diet, ProBio, BMI, lifestyle

## INCREASING IMPORTANCE ABOUT SPORT VIA OF SPORT FOR ALL IN TURKEY AND BALKANS

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**Aim:** The aim of sport for all is to develop physical activities, recreation, health, well-being, socialisation and cooperation. Sport for all is a global phenomenon including all categories of ages and all kind of sport recreational activities.

**Methods:** Sport for all promotes the Olympic Movement's values and the fair-play spirit. Turkish Sport for All Federation (TSFAF) is an active partner of TAFISA for 30 years. TSFAF promote an active life through sport in Turkey for almost 50 years.

**Results and conclusions:** TSFAF together with TAFISA has been recorded a lot of events, festivals and project with large impact in national and international levels. Through this cooperation we have developed strong relations with international sport for all structures.

**Keywords:** sport for all, recreation, well-being, active life style.



## THE ACUTE EFFECTS OF PRE-EXERCISE VIBRATING FOAM ROLLING IN ADDITION TO DYNAMIC STRETCHING ON ANAEROBIC POWER AND FLEXIBILITY

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**Aim:** Recently, self-myofascial release with foam roller has become an increasingly popular method and it is commonly used both before and after a workout. However, there are limited studies demonstrating the efficacy of pre-exercise self-myofascial release with vibrating foam roller on anaerobic power. The aim of the current study was to determine the acute effects of pre-exercise vibrating foam roller intervention in addition to dynamic stretching on anaerobic power.

**Method:** Fourteen healthy collegian male students (age: 21.42±1.62, height: 177.82±8.33cm, weight: 73.79±11.42kg) were volunteered to participate in the current study. The participants performed a dynamic stretching or the vibrating foam rolling intervention in addition to dynamic stretching and then performed 10 and 30 m. sprint, agility, vertical jump and flexibility tests with two days interval. The Wilcoxon test was used to compare two protocols.

**Results:** Flexibility was statistically significant greater when tested after vibrating foam rolling (26.40±4.38cm vs. 23.00 ±3.91 cm, p<0.05) While no differences found between two protocols for anaerobic power.

**Conclusion:** As a conclusion, an acute bout of pre-exercises vibrating foam roller intervention was an effective treatment to acutely increase flexibility without a concomitant deficit in muscle performance.

**Keywords:** foam rolling, anaerobic power, dynamic stretching

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## LIMITS OF PHYSICAL ACTIVITY IN PATIENTS WITH INFECTIOUS MONONUCLEOSIS

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**Background:** Infectious mononucleosis, contagious disease transmitted mainly via saliva, commonly seen in adolescents and young adults, is clinically characterized by pharyngitis, lymphadenopathy, fatigue and less often splenomegaly and hepatomegaly. Hepatitis is common, usually without clinical symptoms, only with elevation of serum transaminases levels. The most serious complication, but rare is spleen rupture, spontaneously or after abdominal trauma of any type, including sports activities. People who have sports activities (in particular contact sports) must avoid early activity after the disease.

**Aim:** Evaluation of hepatic and splenic impairment in patients with mononucleosis.

**Materials and methods:** retrospective study, performed in the Clinical Infectious Diseases Hospital Brasov during Jan. 2013-May 2017, analyzing some clinical and epidemiological data of 75 patients with mononucleosis, from the age of 10 years old.

**Results:** Patients admitted with mononucleosis were prevalent children (69,33% cases) and females (58,67%). Splenomegaly was diagnosed in 65,33% of patients, more frequently in children (75% cases). Hepatitis was found in 76% of the patients, more frequently in adults (82,61% cases).

**Conclusions:** Hepatic and splenic involvement in mononucleosis has been frequently diagnosed, regardless of age. Medical recommendations during hospitalization and after hospital discharge, related to diet and physical effort, should be appropriate to the patient's condition.

**Keywords:** infectious mononucleosis, splenomegaly, spleen rupture

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## METABOLIC DIFFERENCES BETWEEN WOMEN AND MEN IN SPORTS

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**Aim:** The purpose of the paper is to show which energy substrates is used preferentially during the effort by both sexes.

**Methods:** Scientific articles, published in the last 5 years, were consulted from the following databases: PubMed, Science Direct and Web of Science.

**Results:** According to the literature, there is a significant gender difference in the use of creatine-phosphate, carbohydrates, lipids, ketone bodies and amino acids. Women have lower creatine-phosphate concentrations and higher ADP at the end of the effort. In men, the energy

produced during the effort comes from the preferential use of glycogen stores, while women use preferentially lipids due to estrogenic hormones and because adipose tissue is more sensitive to the action of lipid-producing hormones which are released during effort (catecholamines, glucagon). Although lipolysis is more pronounced in women, it appears that ketogenesis is more pronounced in men due to the difference in body fat distribution and hormonal differences between genders. At the level of protein metabolism, studies show that moderately active men have a higher rate of use of amino acids (especially leucine), compared to women.

**Conclusions:** Due to hormonal differences, women have the advantage of preferentially using lipids and creatine phosphate to produce the necessary ATP during exercise, which gives them the advantage of losing weight much more easily than men.

**Keywords:** metabolic differences, women, men

## THE PATTERN OF CONSUMPTION OF ENERGY DRINKS BY STUDENTS

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**Aim:** The aim of this study was to identify the consumption patterns of energy drinks among university students who are involved in the sports associations of the central states of Bouira, TiziOuzou, Boumerdès and Béjaïa.

**Methods:** A total number of 32 students (20 males and 12 females) were qualified for the ZONAL championship after qualifying between colleges and universities. We distributed a questionnaire which contained a set of questions divided into three axes: the quality of beverages and liquids consumed, promotion and advertising for the consumption of energy drinks, some information and beliefs related to the benefits and disadvantages of some drinks.

**Results:** The most important results were as follows: Promotion and misleading advertising increases the attractiveness of athletes to consume energy drinks. The existence of information and misconceptions among students of sports related to drinking energy drinks. There is a difference in the degree of consumption of energy drinks among sports. The pattern of consumption of athletes students for different energy drinks.

**Conclusions:** We need to pay attention to studies related to the study of the behavior of athletes towards food materials and products and also to the student sports university in all respects and raise the level of health awareness and nutritional behavior. Clubs and sports teams must be accompanied by a sports nutritionist.

**Keywords:** style, consumption, energy drinks, sport

## PHYSICAL INACTIVITY AND OBESITY AS RISK FACTORS IN EARLY OSTEOARTHRITIS

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**Aim:** Evaluation of functional parameters in patients with physical inactivity and diagnosed obesity with early osteoarthritis, in a program of physical therapy associated with a proper diet in order to achieve an optimal weight.

**Methods:** We evaluated 20 patients at Department of Medical Rehabilitation and Rheumatology, County Hospital Timisoara by following the scales: Womac Index for pain assessment, functional index of Lequesne to detect severity of osteoarthritis and SF-36 questionnaire to assess general health. Evaluation was performed baseline and after 6 months.

**Results:** All patients were overweight or obese. At the initial assessment the average value of Womac Index was 14.6 and after completion of therapeutic program was 10.8, being observed pain relief in all patients included in the study. The average value in terms of functionality and assessment of general health was initially Lequesne index 10.2 and 7.3 respectively SF-36 initial 77.1 and finally 97.5, showing an improvement in all tracked parameters. In addition these patients followed a diet program, which reduces caloric intake by 300 to 500 kcal/day, necessary for weight loss over a period of 4-6 months and later they followed a balanced diet for maintaining the gained weight.

**Conclusions:** Although the 2016 EULAR recommendations advised not to initiate therapy in patients > 120 kg due to failure of therapy, we tried to lower weight under this limit, associating a diet program in order to improve treatment. Physical inactivity is the most common cause of obesity and the main factor of joint degradation, counseling is important in avoiding risk factors and lifestyle changes.

**Keywords:** osteoarthritis, inactivity, obesity, diet

## THE FREQUENCY AND THE CAUSES OF INJURES OF THE ATHLETES PLAYING ON REGIONAL WOMEN’S BASKETBALL B LEAGUE OF TURKEY

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**Aim:** This study was made to investigate the frequency and the causes of injures of the athletes playing on Regional Women’s Basketball B league.

**Methods:** 81 female athletes have participated in the study, and the questionnaire was prepared to investigate the frequency and causes of injures in sport. In the evaluation of that questionnaire, the package program SPSS 15.0 was used. The obtained data was evaluated by percentage and chi-square analysis. Significance levels were determined in the range of 0,05 and 0.001.

**Results:** Through the questionnaires, it has been found that 53.1% of athletes participated in the study were get injured since the start of basketball. The statistical significant differences between playing time and weekly training numbers in the preparation period were observed ( $p < 0,05$ ). In the evaluation of the injury condition of the athletes, according to activity, it was observed that there were statistical significant differences between training turn, competition turn and out-of-field activities ( $p < 0.005$ ).

**Conclusions:** It has been found that injuries are in the lower extremity, and usually sprain injury has showed quite significant difference. Basketball injury rates increased with increasing duration of play. This difference was found statistically significant. Likewise, a statistical difference was observed between the playing duration of the hall and outdoor basketball players.

**Consequently**, it has been found that majority of basketball players have been getting injured. And the causes of injuries have been differ from playing time, playing ground, injury patterns and injury parts.

**Keywords:** basketball, women, sports, injuries

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## DIET AND LIFESTYLE ASSESSMENT OF THE TRIATHLETES

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**Background:** Triathlon is one of the most complex sport activities, and involves three different branches: swimming, cycling and running. The optimal number of daily meals (3), have to provide the most of the energy, 70% for this category of the athletes. Snacks, 2-3 or even 4 in number, will complement the daily food intake. The objective of the research was to find information about the lifestyle and eating habits of triathlon athletes.

**Methods:** We have developed an online questionnaire that contained 45 questions about anthropometric data, lifestyle and eating habits of Mures triathlon athletes.

**Results:** In the study were included 101 athletes, 81.2% male, 35.98 years old the mean age (22 to 54 years old). Mean BMI was 24.3. 68% participated on medical consultation, 58% used nutritive supplements, and 62.9% used it from their own initiative. Most 94.1% were non-smokers, 44.6% consumed alcohol occasionally, 58.6% did not consume energy drinks but instead 91.1% used energy bars/gels, 85.1% were omnivores, and 2% did not consume dairy products. Daily fruit and vegetable consumption was at 55.4% respectively 43.6%.

**Conclusion:** Most of the athletes from the study have a normal body mass index, but they need more information and management of their diet in other to perform better.

**Keywords:** triathlon, diet and lifestyle, eating habits

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## EXAMINATION OF THE EMPATHY TENDENCY LEVELS OF PEDAGOGICAL FORMATION STUDENTS IN PHYSICAL EDUCATION AND SPORTS

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**Aim:** The aim of this research is to examine the empathic tendency levels of students of recreation, coaching education and sports management, who continue to study and graduated with pedagogical formation education in faculty of the sport sciences, in terms of different variables.

**Methods:** The research was designed in a quantitative research model and examined by survey method. For the data collection in the re-

search, Personal Information Form and “Empathic Tendency Scale” of Dökmen (1988) were used. Parametric tests were used in the analysis of data since Skewness and Kurtosis values of the independent variables were between (+ -1).

**Results:** In the light of the obtained findings, it was revealed that there was no significant difference in the total score of empathic tendency scale according to variables of gender and marital status. According to the Pearson Moment Correlation analysis performed to determine the relationship between the total score of the “Empathic Trends Scale” and the age variable, no significant relationship was found. The total score participants have received from the “Empathic Trends Scale” differs significantly according to the participants’ educational status.

**Conclusions:** When the empathic tendency levels of participants were examined, it was found that there was a significant difference between the participants who graduated from universities and those continuing to study at university, while no significant difference was found in terms of gender and marital status variables.

**Keywords:** pedagogical formation, empathy, physical education

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## DETERMINATION OF CAFFEINE CONTENT IN DIETARY SUPPLEMENTS FOR WEIGHT LOSS BY A HPLC-UV METHOD

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**Background:** The concern for a healthy life, is to maintain body weight because of aesthetic criteria and awareness of the risk of chronic diseases, but also the need to fit within weight limits in case of athletes has led to adoption of fast and easy weight loss methods, that combine physical effort, dietary measures and the use of weight loss supplements. Our aim was to develop a simple, fast and precise method of high performance liquid chromatography (HPLC-UV) to allow identification and quantitative determination of caffeine content in weight loss supplements.

**Method:** Determinations were performed on a chromatographic system Merck Hitachi, using CH<sub>3</sub>COOH 0.1% in water: acetonitril in a gradient dilution, the aqueous phase decreasing from 95 to 35% in 30 minutes. Determinations were achieved on a reverse phase Xterra C18, 5 µm, 4.6 mm X 250 mm analytical column.

**Results:** Through this method it was allowed to separate caffeine at retention time of 4.61 minutes. The content of caffeine was 53.10-124.90% higher than the one stated on the label for tablets and capsules for weight loss, and in case of one product labeled “decaffeinated greed coffee bean extract” caffeine was found in the amount of 50.60±14.53 mg/100 g.

**Conclusions:** Current legislation in Romania on weight loss supplements allows deliberate falsification by manufacturers by adding substances that increase product efficacy or by using higher concentrations than those that were declared on the label.

**Keywords:** caffeine, dietary supplements, HPLC-UV

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## INVESTIGATION OF SELF-ESTEEM LEVELS OF UNIVERSITY TAEKWONDO STUDENTS

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**Aim:** Increase in the self-confidence, self-acceptance in a sports medium as well as decrease in the stress have all positive effects on a person. It is also considered that these positive effects have a positive contribution on self-esteem of a person. The aim of this study was to investigate the self-esteem levels of university taekwondo students.

**Methods:** We have 162 individuals in our sample, 82 males (50.9%) and 79 (49.1%) females having an average age of 21.18+/-2.34. In order to measure the self-esteem levels of participants, Rosenberg self-esteem scale was used. The scale constituted of 63 multiple-choice questions. The first 10 items of the scale were used to measure the self-esteem. If the grade was lower than 15, then it indicates a lower self-esteem level whereas if the grade was between 15-25, it indicates a sufficient self-esteem.

**Results:** Most of the sportmens (95.7%) had sufficient self-esteem level, although the self-esteem grades of females (22.25 4.09) were higher than those those of males (21.86 4.12), the difference between them was not at a significant level ( $p>0.05$ ). As the academic succes of participants increased, their self-esteem levels also significantly increased ( $p<0.05$ ).

**Conclusions:** There are many factors affecting the self-esteem. In this present study, most of taekwondo players (95.7%) had sufficient self-esteem levels in accordance with other studies. Consequently, it can be said that the taekwondo players had sufficient self-esteem levels.

**Keywords:** self-esteem, taekwondo, sport

## THE USE OF SOY PROTEINS FOR JUNIOR ATHLETES - BETWEEN BENEFITS AND RISKS

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**Aim:** The soy proteins (*Glycine max*, Fam. Fabaceae) can be a nutritional alternative for sportsmen, especially for those who follow a diet to reduce their body weight. Besides its protein content, soy contains polyphenols, valuable antioxidants, but also isoflavonoids, agonist compounds for  $\beta$  estrogen receptors. The aim of our presentation is to evaluate the medical literature on benefits and risks of the use of soy based food and extracts for junior athletes.

**Methods:** The study of medical literature using as key words “soy+children+benefits” and “soy+children+risk” shows 27 studies in the first case and 245 in the second one.

**Results:** The medical literature does not describe studies to indicate hormonal side effects for children, but on the contrary it presents many beneficial effects of soy food consumption, including protective effect in terms of breast cancer risk at adult women. However, there are studies which confirm that a lower height of children is associated with the consumption of soy milk.

**Conclusions:** Although the medical literature does not prove negative effects of soy consumption, however, many authors recommend caution and moderate consumption, especially when we are talking about children.

**Keywords:** soy, isoflavonoids, children, proteins

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## THE EFFECT OF 8-WEEK STRENGTH TRAINING PROGRAM SUPPORTED BY FUNCTIONAL SPORTS EQUIPMENT ON MALE VOLLEYBALL PLAYERS' ANAEROBIC AND AEROBIC POWER

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**Aim:** The purpose of this study was to investigate the effect of 8 week strength training program supported by functional sports equipment on male volleyball players' anaerobic and aerobic power.

**Methods:** A sample of 26 athletes voluntarily participated in this study, randomly divided into two groups as experimental group (n=13, age=27.08±3.99 years old) and control group (n=13, age=27.46±4.05 year). Experimental group received strength training by using functional sports equipment three days a week for an eight-week program in addition to their regular volleyball training. The control group participated in their regular volleyball training. Their age and BMI data were noted. Before and after the treatment, lower and upper extremity anaerobic and aerobic power tests were performed, and their scores were statistically analyzed by using SPSS software program. In all parameters of the experimental group aerobic and anaerobic power test, statistically significant differences were determined in favor of the post test ( $p<0.05$ ).

**Results:** No significant difference was found between pre-test and post-test in all test parameters for the control group ( $p>0.05$ ). A statistically significant difference was found in favor of the experimental group in all parameters of aerobic and anaerobic power test between the groups ( $p<0.05$ ).

**Conclusion:** As a result; it can be said that the 8-week strength training supported by functional sports equipment increased the upper and lower extremity anaerobic and aerobic power and had positive effects on strength development.

**Keywords:** strength trainin, volleyball players, anaerobic power, aerobic power

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## NUTRITION GUIDELINES FOR COMPETITIVE TENNIS

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**Aim:** To provide evidence-based nutritional recommendations for performance tennis players.

**Methods:** Players should particularly focus their efforts on the adequate and appropriate consumption of four primary nutrient categories – electrolytes, carbohydrates, protein and fat. For most players, the International Tennis Federation recommended a minimum of approximately 2500 calories a day, although some players may require in excess of 3500 calories. The American College of Sports Medicine and the National Athletic Trainers Association have recommended that athletes should consume in general 30–60 g/h CHO during exercise.

**Results:** Elite-standard tennis players should have a habitually high carbohydrate diet of between 6-10 g/kg/day to ensure adequate glycogen stores. The consumption of 20–25 g of protein after exercise is recommended in order to stimulate muscle protein synthesis and possibly lower the rate of muscle protein breakdown. Fat takes the longest time to digest, and thus, it is not a good source of quick energy during

exercise. Sports beverages containing carbohydrates and electrolytes may be consumed before, during, and after exercise to help maintain blood glucose concentration, provide fuel for muscles, and decrease the risk of dehydration and hyponatremia.

**Conclusions:** Protein is crucial for building muscle and organ repair in the tennis player’s body, it provides a small source of energy for muscles exercise but is not the ideal energy source on the court. It is important to reiterate that tennis coaches and players should take into account the individual needs of the athlete.

**Keywords:** nutrition, electrolytes, carbohydrates, protein

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## EFFICIENCY OF THE HYPOCALORIC DIET AT THE OVERWEIGHT PERSONS WITH THE DOWN SYNDROME

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**Aim:** The main aim of the present study was that of structuring the rational eating program, with a hypocaloric diet, based upon a couple of basic principles, for the overweighed persons with the Down syndrome.

**Methods:** The present study during August 2016–February 2017 on an overweight subject with the Down syndrome, took place “Raza de Soare” Association. The recovery of the subject within the special program conceived by specialists who activate within this association is a complex one, based upon the following working techniques: physical recovery through a hypocaloric diet and kineto-therapy; psychic recovery through psychological counselling. In this regard, the various usage of the themed games, coupled with the discussions carried out between the specialists and the subject through the dialog art, complete the general framework of the multidisciplinary participation in the so complex recovery of the subject with the general diagnosis of Down Syndrome.

**Results:** Thus, the decrease in weight by using this specially conceived diet and adapted for the overweighed persons with the Down syndrome, reached a value of 11 kg during the period of the present study.

**Conclusion:** In order to have a diet calculated in the sense of decreasing the weight in the overweighed persons with the Down syndrome, it must contain 3 groups of nutrients: sugar, proteins and lipids. Moreover, this diet must insure the indispensable with regard to vitamins, water and minerals at the same time with the consumption of proteins, less sugar and lipids, the latter having the role of extracting the vitamins.

**Keywords:** Down syndrome, overweight, diet, recovery

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## NOTES

## NOTES



