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## The 5th National Conference on Nutrition and Dietetics

### “Current nutritional approaches to food allergies and intolerances”

Tîrgu Mureș, Romania  
May 4-5, 2018

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VOLUME OF ABSTRACTS

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**BOOK OF ABSTRACTS**

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# The 5th National Conference on Nutrition and Dietetics “Current nutritional approaches to food allergies and intolerances”

May 4-5, Tîrgu Mureş, Romania

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## IS IT POSSIBLE A NICKEL-FREE DIET?

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**Background:** All that is on earth (from man's body to plants, seeds and animals) contains elements of the earth, such as nickel. It is located almost everywhere, in water, air, food, alloys, fertilizers, cigarette smoke. Metallic nickel and nickel compounds are used in many industrial and commercial fields such as stainless-steel, alloys, ceramics that can release it in the environment. Thus, nickel can be accumulated by plants and animals, and through all these it can reach the human body. Very small amounts are necessary for proper functioning of the body, but when they exceed a certain value, imbalances occur, and it can induce allergic reactions on about 15% of humans, producing the symptoms classified as Systemic Nickel Allergy Syndrome.

The **aim** of this study was to highlight the presence of nickel in food.

**Material and methods:** An analysis of specific literature was conducted to assess the presence of nickel in food products. Data sources such as ScienceDirect, WHO and many nutrition sites were searched.

**Results:** Scientific studies have demonstrated that the main nickel intake route for humans is food with a daily average of about 0.1-0.3 mg. The level of nickel in foods varies with plant species, the nickel content of the soils, the cooking mode (stainless-steel utensils and pans) or with the food storage mode (canned, metallic food foil). In many studies legumes and greens (nuts, peas, beans, potatoes, spinach, tomatoes, whole grains) and chocolate were reported to be the richest sources of nickel.

**Conclusions:** Nickel allergy is the most common type of metal allergy and represent a worldwide health concern. Different amounts of nickel are present in almost all food so a nickel-free diet is not possible. To diminish the allergic effect, sensitized persons should avoid food with a high content of nickel.

**Keywords:** nickel, food, allergy

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## NEW APPROACHES IN FOOD-DEPENDENT EXERCISE-INDUCED ANAPHYLAXIS

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**Background:** Food-dependent exercise-induced anaphylaxis (FDEIA) is a medical emergency caused by the consumption of food with allergenic potential IgE mediated before making intense physical effort.

**Material and methods:** Based on contradictory information found in scientific literature, according to which people who suffered from FDEIA didn't present any risk in developing an allergy from eating potential allergenic foods, neither during intense physical effort without previously consuming these foods, the purpose of this study is to find the biochemical mechanism that explains the trigger of this acute situation by using “FDEIA” and “IgE food allergy” as key words.

**Results:** The results found in literature reveal that during physical exercise the releasement of catecholamines determine the mobilization of body energetic resources, consequently, the rise of cyclic AMP concentration due to stimulation of the enzyme adenylyl cyclase leads to the release of glucose from the deposits (glycogenolysis), the increase of glucose oxidation (aerobic and anaerobic glycolysis), the hydrolysis of triglycerides in adipose tissue (lipolysis catalyzed by hormone-sensitive tissue lipase) and beta- oxidation of fatty acids in the mitochondria. All these processes determine the increase of the energy content in the cell, a part being used for ATP synthesis and another being released as body heat. Increasing temperature in tissues causes mast cell degranulation and the release of chemical mediators such as histamine and IgE. Intake of allergenic foods before physical effort causes the releasement of specific mediators like histamine, prostaglandins and leukotrienes that interfere with the occurrence of allergy, which is exacerbated by physical effort.

**Conclusions:** Patients known to previously have an immune response to different types of food should not consume these potential allergens before engaging in intense physical effort. Furthermore, the pharmacists play a significant role in warning patients with allergic treatments prescribed by doctors about FDEIA risks.

**Keywords:** food-dependent exercise-induced anaphylaxis, IgE mediated food allergy, food allergens

## THE RELATION BETWEEN EMOTIONAL STRESS AND PSYCHOSOMATIC DISEASE - A SISTEMIC PSYCHOTHERAPY APPROACH

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**Introduction:** The negative force of perceived stress interfer with our resources of staying healthy and in shape. Stress affects people emotionally, physically, cognitive, behavioural, in different ways, depending of intensity and duration of stress, genetic construction, environment conditions and the learned answer models. The ability to recognise and cope with problems predicts if the stress is taking over your life or you can manage it's symptoms.

Intensive research has beign done, finding significant correlations between stress and illness.

**Material and methods:** Present research is a review of the actual studies from the literature that are trying to find a relationship between individual psychology and the polarity of the results of medical interventions as a start point in identifying a stress-related disease. Another objective is to identify how the psychosomatic simptoms produce, iat individuals, an important level of perceived stress.

**Results:** Even if they are external, internal, realistic or imaginary causes, that generates and/or mantains a stress process, it contributes to many health problems, such as high blood pressure, heart diseases, obesity, diabetes, gastro-intestinal disorder, respiratory disorder (asthma), skin condition (eczema, eruptions), pain, depression, thinking and memory problem, immune diseases, cancer and other health problems. The simptoms of stress are individually perceived and the effects should be measured in base of personal performance. There is a circularity between stress and diseases, that is able to influence the management of these.

**Conclusion:** The patient should be evaluated in the clinical practice from biopsychosocial point of view. Personal biograpy, personality traits, socio-economical conditions, family's relationship dinamic, somatic vulnerability, lifestyle, etc. are important details that integrates psychological therapies in prevention and treatment of medical diseases and explaining resistant symptoms.

**Keywords:** emotional stress, psychological factors, psychosomatic disease, psychotherapy

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## COMPARATIVE STUDY ON THE CONSUMPTION OF DIETARY SUPPLEMENTS

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**Introduction:** Although most people are aware of the importance of consuming daily fruits and vegetables and combine diet with physical activity, this is not always respected. In order to avoid deficiencies, they call for dietary supplements that most often influence the quality of life.

**Material and methods:** General Practitioners Mures Association asked to a group of 89 of their members to complete a questionnaire regarding the information about dietary supplements offered to their patients and in addition we disseminate online another questionnaire to a group of 176 patients and potential consumers from Mures county. Based on our data we compared the attitudes of family doctors towards patients regarding the role of dietary supplements in their diet.

**Results:** 92.13% of surveyed family doctors recommended dietary supplements in 2017. 48.82% standed that consumption of dietary supplements has a positive effect, and 58.43% considered the effects to be variable. 82.58% of patients were using dietary supplements, of which 69.66% had a beneficial effect on their health status. From physicians group, 83.15%, believed that patients are using supplements without consulting a specialist, and 55.06% claimed this attitude it may have an allergen risk.

**Conclusions:** In most cases, patients do not use the advice of specialists to consume a dietary supplement, being attracted by brand and price. Under very permissive legislation with regard to dietary supplements, the variation on a case-by-case basis, depending on the product, is explained by the presence or absence of an advised counseling.

**Keywords:** family doctor, dietary supplements, counseling



## EVALUATION OF THE USE AND COMPREHENSION OF FOOD LABELS AMONG THE POPULATION OF BUCHAREST

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**Introduction:** Food labels provide important nutritional information that can help consumers make informed choices about what they eat. Understanding nutritional information on food products and being able to choose healthier food alternatives would greatly benefit the public health sector with the prevention of non-communicable diseases, as nutrition is one of the modifiable risk factor for most of these. However, food labels seem to be underused by consumers for several reasons.

**Materials and methods:** This study was carried out using an online questionnaire, comprised of 21 questions that looked at the frequency at which consumers read food labels, the reasons why they don't, the information they are looking for in food labels, if they understand the nutrition facts, as well as if they were provided by any professionals with the necessary knowledge to be able to understand that information.

**Results:** The questionnaire was completed by 322 participants from Bucharest city, between 26 and 40 years old, and 64.9% females. 41% admitted they read too often food labels, 30.4% rarely do, while 3.4% never do. Among the reasons for not reading food labels, the most frequent answers were: not being used to it, the labels being too small or not having time to do so. The information that was most read on food labels were the date of expiry and the ingredients list. 67.8% of participants claimed that they were never informed by any professional about the significance of information on food labels or how to choose the products based on their nutritional content, and most of their knowledge was gained through the internet.

**Conclusion:** Healthcare professionals have an important role in population education, by providing basic information that can help consumers make healthier choices, and consequently, contribute to the prevention of nutrition-related diseases.

**Keywords:** nutrition, public health, food labels, education

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## CELIAC DISEASE - PATHOPHYSIOLOGIC, DIAGNOSTIC AND DIETETIC ASPECTS

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**Background:** Celiac disease is an autoimmune, chronic inflammatory disease of the small intestine, induced by consumption of gluten containing cereals. It can be develop at any age in in genetically susceptible individuals, having a strongly HLA-association. The disease pathophysiology is based on the destruction of the small intestinal mucosa, by an autoimmune mechanism, induced by a gluten containing diet.

**Material and methods:** We followed in 2017 a sample of 203 Romanian people who completed a consented questionnaire, with questions about the diagnostic methods, diet profile and gluten-free products sources.

**Results:** In our sample, 71% started a gluten free diet after medical diagnosis of Celiac disease, and 29% suspected the existence of disease and started the diet without any medical advice. Starting gluten free diet based only on suspicion of Celiac disease can delay the diagnosis and the proper management of it. For a proper diagnosis there is necessary to identify special antibodies and a positive intestinal biopsy.

**Conclusion:** We recommend implementation of proper education in schools and also training programs in order to sustain the importance of medical evaluation and analysis, and if the diagnosis is positive, start and follow a personalized gluten free diet. A special attention need to be paid by Celiac patients to presence of gluten as a food contaminant in their menu, and to avoid it.

**Keywords:** celiac disease, pathophysiology, gluten-free diet, contaminant

## THE NOURISHMENT OF PATIENTS ASOCIATED WITH CARDIOVASCULAR DISEASES

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**Background:** Cardiovascular diseases include pathological conditions of the heart and/or blood arteries and veins that provide oxygen to the brain and other vital organs. It is estimated that an early diagnosis of cardiovascular diseases and related risk factors (age, blood pressure, sex, cholesterol levels, diabetes mellitus, smoking, obesity, sedentary lifestyle, etc) and appropriate preventive actions can reduce the incidence of heart disease mortality up to 80%.

**Aim:** For this purpose, we choose to analyze a group of patients admitted at the Cardiology Department of Tîrgu-Mureș, between 50 and 80 years old, both women and men.

**Material and methods:** We used a food frequency questionnaire containing 32 questions related to food behaviors, types of food/drinks consumed and the frequency of consumption, eating habits, the importance of main and regular meals and mealtime. 25 patients (17 women and 8 men) participated in this study.

**Results:** 75% of men respected the 3 main meals per day, while 25% skip breakfast or dinner from time to time. As for women, 65% are respecting the 3 main meals while 6% never respect them. 50% of men consumed milk and/or dairy products daily while 64.7% of women consume those once every 2-3 days. As for daily meat consumption, 100% for men and only 23.52% women say yes, while the others eat meat rarely. The frequency of daily consumption of fruits and vegetables was higher for women (58.82%) than men (37.5%).

**Conclusions:** A healthy and equilibrated diet is the key for prevention of cardiovascular diseases. Most patients admitted at the cardiology department understood the importance of keeping a healthy diet in preventing some of the major complications of cardiovascular diseases.

**Keywords:** nutrition, cardiovascular disease, equilibrated diet

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## THE MOST FREQUENTLY USED SOURCES OF INFORMATION FOR GLUTEN-FREE DIET IN ROMANIA

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**Background:** Nowadays, diseases prevention and maintaining health are some of the most important national and international targets. Nutrition researchers are focusing on the aspects of healthy and unhealthy lifestyles impact. In our study we aimed to evaluate gluten-sensitive and celiac disease patients knowledge and attitudes towards the most frequently used sources of information for gluten-free diet in Romania.

**Material and methods:** Our study was a cross-sectional survey upon 462 Romanian subjects, who fulfilled online a KAP questionnaire regarding their attitudes towards gluten-free diets information sources used, in 2017.

**Results:** In our sample with subjects from different educational and social background, 193 were from Bucharest (41.77%) and 47.4 % from Tîrgu-Mureș, 76.2% were females, average age was 36.7+/-11.5 years old. The most frequent used sources of information regarding gluten-free food products for Tîrgu-Mureș subjects were: internet (for 46.57% of them), food products labels (19.17%) and friends/colleagues (5.93%) and the less used sources were: TV/Radio (2.73%) and Dietitian (for 0.91%). Comparing data between Bucharest and the rest of the country showed that in our country capital the most frequent used sources of information regarding gluten-free food products for Romanian subjects were information received from the physician on the occasion of the disease (with 21.6%), followed by Dietitian (9.75%) and information on the product label (7.26%).

**Conclusion:** After the diagnosis for gluten sensitivity it follows the treatment recommendations based on gluten-free food products and personalized diet and lifestyle, all of which needs proper information and purchasing sources also a life-time monitoring by specialists like Dietitians.

**Keywords:** gluten-free diet, gluten intolerance, celiac disease

## LACTOSE BEYOND MILK

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**Background:** Lactose is a disaccharide composed of one molecule of galactose and one of glucose. In the pharmaceutical industry lactose is used in tablet mixture because it has excellent compressibility properties. It is also used to form a diluent powder for inhalations with spray dried powder. Quality pharmaceutical lactose contains traces of milk protein (0.012-0.029% impurities, including cow's milk). These amounts may cause allergic reactions in people suffering from milk allergy if ingested or inhaled.

**Material and methods:** We have a study case: woman, 60 years old, with type 2 diabetes with ADO treatment (metformin 1000 mg), high blood pressure stage 2, treated for high cardiovascular risk (perindopril 10 mg + indapamid 2.5 mg, rilmenidina 1.5 mg), and also with hyperuricemia (allopurinol 150 mg), acute recurrent urticaria, and discrete facial angioedema. Our patient was instructed to avoid milk and its derivatives in her diet. At the same time, she was advised to keep a daily food and symptoms journal to identify a correlation between food and symptoms. She was given a new set of antihypertensive drugs not containing lactose component: telmisartan 80 mg plus hydrochlorothiazide 12.5 mg, slow-release metoprolol-succinate 50 mg, and it has removed allopurinol and administered antihistamine as syrup (oral cetirizine drops).

**Results:** After 2 weeks, an episode of discrete left palpebral angioedema has been reported, with no urticarial lesions; another similar episode took place after another week during the first month of monitoring but the symptoms were lower than the period before the food and drug restrictions mentioned. These symptoms may be related to accidental contamination or inappropriate inadequacy of the ingested ingredients of the patient.

**Conclusions:** Adverse drug reactions and allergies can be triggered and maintained by the main component or additives. Lactose is one of the most common ingredients in tablets, and patients sensitive to cow's milk proteins need to be warned about their medication.

**Keywords:** lactose, allergies, additives

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## EVALUATION OF ANTIOXIDANTS CONTENT IN HOSPITAL DIET

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**Background:** Food contains nutrients that help relieve or cure illnesses along with treatments received in the hospital. One of the most important nutrients in food are antioxidants that remove free radicals from the human body.

**Material and methods:** The main objective of this study was to calculate the level of antioxidants using the ORAC score and comparing the antioxidant level of the menus / food in the hospital with the recommended daily antioxidant. In this descriptive study, menus are analyzed for 7 days (one week). The menus analysis content was for: calories, macronutrients (carbohydrates, lipids and protein) and antioxidants using the ORAC score. The amount of the resulting antioxidants was compared to the daily antioxidant requirement and analyzed the amount of antioxidants received from the menu in percentages.

**Results:** There are two types of daily menus: those with more vegetables and those with less vegetables. Days in which there were used more vegetables in the menu, the antioxidant score varies between 60-80%. Days in which there were used less vegetables in the menu, the antioxidant score varies between 25-40%. Our results showed that antioxidant score was not related to calories and macronutrients.

**Conclusions:** For hospitalized patients, nutrition has an important role, bigger than for healthy individuals, because it helps with the cure of diseases together with the treatment. We recommend that in hospitals to be introduced as many vegetables and fruits as possible, in order to ensure the level of daily antioxidants needed.

**Keywords:** antioxidant, ORAC, hospital, nutrition

## WHEAT SPROUTS CONSUMPTION IN FOOD ALLERGIES

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**Background:** *Triticum aestivum* L. or common wheat, is the most important plant cultivated with a high importance in human and animal nutrition and is also one of the most common allergens due to protein content, gliadin and glutenin present in the grain can form gluten. The form under which wheat is consumed as food is very various. In the last period wheat germs are added to soups, salads or other foods, in order to increase the enzymatic activity of the product and due to the high protein intake.

**Material and methods:** We have conducted a bibliographic study searching on sites like Pub Med for articles of recent years on the amount of proteins and amino acids present in wheat germ and the influence of the germination process on the quality and quantity of proteins allergenic.

**Results:** Although the consumption of wheat germs has many beneficial effects on the human body, they can be harmful by the high content of allergenic proteins. High protein content can be attributed to the loss of dry matter, especially carbohydrates, by the breathing phenomenon of the seed during germination; to a high germination temperature or a longer bleeding period meaning a greater loss of dry matter and an increase in protein content.

**Conclusions:** Eating sprouts is recommended in all diets, avoiding the types of potential allergenic sprouts for people with celiac disease or gluten sensitivity.

**Keywords:** germs, wheat, gluten, allergy

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## STATUS OF VITAMINS WITH EXOGENOUS ANTIOXIDANT ROLE IN ATHLETES COMPARED TO PHYSICALLY INACTIVE PEOPLE

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**Background:** Exogenous antioxidants have a major impact on energetic and immune system, as onto stress level. The aim of the study was to compare levels of exogenous antioxidants (vitamin A, B12, C and E), in performance athletes versus physically inactive people.

**Material and methods:** The antioxidant levels were measured with the Quantum Resonance Magnetic Analyzer equipment. Students were asked about the existence of their vitamin supplements intake within a questionnaire. 100 students from University of Medicine and Pharmacy and Bolyai Farkas high school of Tîrgu Mureş city, participated in our study, from which 65 athletes, ages between 16-22 and 35 sedentary persons, ages between 16-23.

**Results:** 42 students (42%) had normal levels of vitamin A of which 38.46% athletes and 48.57% sedentary people, 58 persons (58%) had vitamin A deficits, of which 61.54% athletes and 51.43% sedentary. 77 students (77%) presented normal levels of vitamin B12, from them 73.85% were sports-people and 82.86% were sedentary, and 23 (23%) students had vitamin B12 deficiencies, from them 26.15% athletes and 17,14% sedentary people. 16 persons (16%) had normal levels of vitamin C, from them 13.85% were athletes and 31.43% were sedentary persons. Totally, 40 people (40%) had normal levels of vitamin E, of them 36,92% were athletes and 45,71% were sedentary persons. 60 students (60%) presented vitamin E deficiencies, of which 63.08% were athletes and 54.28% sedentary people. 34 students used supplements (36.92% from athletes and 28.57% sedentary people).

**Conclusions:** The results show that athletes' antioxidant levels are lower than sedentary persons'. To athletes, the intake of exogenous antioxidants has a higher consequence compared to sedentary people. Therefore it is essential, and for athletes more so, to have a personalized and balanced diet.

**Keywords:** vitamins A-C-E, antioxidants, bioresonance, vitamin B12

## INNOVATIVE TRAINING METHOD IN DIGITAL BUSINESS MODELS

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**Introduction:** The new global framework has already change the way that organizations are created and managed. Digitalization is a buzz word, a “must have”, but the challenges are serious for the small and medium organizations in their quest for sustainability and an integrative approach of the entire business model is required.

**Aim.** Our paper aims at presenting an original approach of training in entrepreneurship and organizational sciences, based on a method developed within an international consortium of researchers and practitioners.

**Material and methods:** Using a combination of principles, method and tools inspired from design thinking, innovation management, business modelling, strategy and change management we propose a complete cycle of knowledge and action based on three major pillars: preparation, innovation, transformation. Best results are supposed to be achieved by combining a face-to-face training within an incubation space with online training and consultations, backed by a software EA type application.

**Results:** We propose a solid, complete and comprehensive concept of training meant to guide organizations through the digitalization process and projects.

**Conclusions:** IT&C must be considered only a mean for an organization to become more agile, profitable and integrated in the new economy ecosystem, but small and medium organizations should invest also in training their HR resources to make a strength out of digitalization.

**Keywords:** digital transformation, organization, business model

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## COMPARATIVE ANALYSIS OF LEVELS OF OMEGA 3 FATTY ACIDS AND AMINO ACIDS BETWEEN ACTIVE AND SEDENTARY INDIVIDUALS

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**Background:** Sport activities alongside healthy diets, are two important factors with essential roles both in protein metabolism and in the synthesis of fatty acids, influencing the levels of anti-inflammatory  $\omega$ 3-ALA. The study aims to compare the levels of  $\omega$ 3-ALA fatty acid and the levels of amino acids Ile (isoleucine), Leu (leucine), Arg (arginine) and Val (valine) between two categories of students: active and sedentary.

**Material and methods:** A Quantum Resonance Magnetic Analyzer equipment for measuring fatty acids and amino acid levels, and a questionnaire regarding the profile of physical activity were used. 78 students from University of Medicine and Pharmacy from Tîrgu Mureş, aged between 18-21 years old, were evaluated. They were divided in active individuals (46 people who were engage in sports on a regular basis) and sedentary individuals (32 subjects who rarely or never practice sports).

**Results:** 25 active individuals (54.35%) and 17 sedentary (53.13%) had normal values of  $\omega$ 3-ALA, and 21 active (45.65%) and 15 sedentary (46.88%) had low  $\omega$ 3-ALA. 15 active (32.13%) and 7 sedentary (21.88%) had normal levels of Arg, 31 active (67.87%) and 25 sedentary (78.13%) had high levels of Arg. 28 active (60.87%) and 15 sedentary (46.88%) had normal levels of Leu, 18 active (39.13%) and 17 sedentary (53.12%) presented high level of Leu. 26 active (56.52%) and 16 sedentary (50%) had normal levels of Ile, 20 active (43.48%) and 16 sedentary (50%) had high levels of Ile. 26 active (56.52%) and 18 sedentary (56.25%) had normal levels of Val, 20 active (43.48%) and 14 sedentary (43.75%) had high Val levels.

**Conclusions:** Although there were no major statistical differences between the two groups, which indicates that diet and sports compensate each other in young individuals, however there is a need for a more balanced diet and the supplementation of  $\omega$ 3 in both groups.

**Keywords:** fatty acids, amino acids, protein metabolism, bioresonance

## PHARMACEUTICAL COUNSELING IN LACTOSE INTOLERANCE AND MILK PROTEIN ALLERGY

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**Background:** Starting from a frequent confusion among patients regarding lactose intolerance and milk protein allergy, the objective of this study was to highlight the differences between these two conditions, for the pharmacists, to improve the pharmaceutical counseling.

**Material and methods:** The analysis of scientific literature available on Pub Med, Science Direct, Medline, using as keywords lactose intolerance, milk protein allergy and differential diagnosis.

**Results:** Data from scientific literature attest that lactose intolerance is caused by the lack or low activity of lactase, so lactose from unfermented milk products will pass undigested through the intestinal tube and the enzymes produced by the saprophytic intestinal flora will transform it into lactic acid. Milk protein allergy, Ig E or non-Ig E mediated, is the most wide-spread form of allergy among little children and it is possible to occur even in children with this sensibility fed with breast milk by mothers who consume milk or milk products. The differential diagnosis between the two affections and the counseling of the mother regarding alimentary behavior during breast feeding, in terms of dairy products are essential.

**Conclusions:** Even if the diagnosis of this conditions is the task of the doctor, the pharmacist and the nutritionist have an essential role in educating the population regarding the long-term dietary alternatives.

**Keywords:** lactose intolerance, milk protein allergy, differential diagnosis

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## THE QUALITY OF INFORMATION ABOUT CELIAC DISEASE ON THE ROMANIAN AND ENGLISH LANGUAGE WEBSITES

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**Objective:** The aim of the study was to assess the credibility, completeness and accuracy of the information regarding celiac disease on the Romanian, and English language websites.

**Material and methods:** The cross-sectional study included 25 Romanian and 25 English language websites. Google searches were conducted using appropriate query terms. Each website was rated for credibility, completeness, and accuracy by two independent evaluators. Credibility, completeness and accuracy scores were computed on a scale ranging from 0 to 10.

**Results:** The mean credibility score was 4.3 (SD 1.2) for the Romanian websites and 6.8 (SD 1.8) for the English websites. The mean completeness score was 4.8 (SD 1.5) for the Romanian websites and 5.3 (SD 2.1) for the English websites. The mean accuracy score was 6.6 (SD 0.7) for the Romanian and 6.6 (SD 1.6) for the English websites.

While the English websites had significantly higher credibility scores (Mann-Whitney  $U=72.000$ ,  $p<0.0001$ ), completeness and accuracy scores did not differ significantly (completeness: Mann-Whitney  $U=248.00$ ;  $p=0.2177$ , accuracy: Mann-Whitney  $U=271.00$ ;  $p=0.4261$ ).

**Conclusion:** Although the English websites had a slightly better compliance to the credibility criteria, this superiority did not translate into higher content quality scores. Both Romanian and English language websites had moderate completeness and accuracy scores. Users should exercise caution when searching the internet for information on celiac disease, regardless of the websites' language.

**Keywords:** celiac disease, gluten, internet, quality of health-related information

## THE INFLUENCE OF MASS-MEDIA TOWARDS TEENAGERS’ NUTRITIONAL BEHAVIOR

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**Background:** We are living in a society where social media along with the internet makes a big impact. This new “way of living” can influence a lot the young minds of children and teenagers who can be easily victims of internet information. Teens have to be the most careful in what they eat, how they eat and definitely from where they take information from. Nutrition has been always a major subject of discussion through television shows, publications and social media. This study is going to reveal the influence of mass-media towards nutrition behavior in teenagers’ life.

**Material and methods:** This cross-sectional study was based on 64 students from Regina Maria school in Sibiu and the target population was the students from 7th grade. A questionnaire composed of 10 questions was used for gathering the information about the use of social media in nutritional information.

**Results:** We questioned 64 students from which 31 were girls (48.43%). 39% of them are using Facebook, 27% Instagram, 25% of them are using the Television and the Snapchat was used by 9%. Half of them are following nutrition advice from the internet 56%, the second place on the range of answers was taken by Television with 35% and lastly 9% of them are actually reading nutrition books for advice. 59% of students acknowledged the bad influence of internet and television to their eating habits and 41% didn’t agree with this.

**Conclusions:** This study showed how much does the Media influence teenagers on their eating habits and their lifestyle. Most of them are totally aware of what and how they eat, but they keep doing so because they see unhealthy lifestyles and products being promoted on all platforms.

**Keywords:** nutrition, teenagers, internet

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## THE IMPORTANCE OF PSYCHO-NUTRITIONAL COUNSELLING IN THE APPROACH OF ALLERGIES

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**Background:** Psycho-nutritional counselling is a combination of psychological and nutritional counselling elements, ultimately resulting in a new expression of patient personality and development, striking a balance between body and soul nutrition. Detecting and then realizing the process of solving the problem situation is the sine qua non in psycho-nutritional counselling.

**Material and methods:** The existence of a personalized psycho-nutritional program (FIACNP) in the present case for the patient diagnosed with allergy represents the appropriate logistic, well-applied, according to the specific identities, varying on a case-by-case basis, the results being different, yet having as a common element, the success.

**Results:** In this context, allergy, seen in the complexity of its evolution, reframed in a special casuistic, approached from a psycho-nutritional point of view, starting from the cause and coming into effect, solving considering many times the personal involvement of the patient, and calling for: self-image, self-esteem and self-confidence, ending in the character. Thus, we take into account the patient’s specific age peculiarities, by the five W (where, when, how, how much, why), which determines the psychological identification of the occurrence and existence of the allergy. It is possible to intervene through the psycho-nutritional counseling, starting from the awareness of the situation – problem, highlighting the positive features of character - as strategic elements (will, seriousness, ambition, involvement, acceptance), drawing the personality of the patient, everything can help to obtain a good, even very good result when working in a team (physician, nutritionist, psycho-nutritional counselor).

**Conclusions:** That is why the approach of the allergy from the perspective of psycho-nutritional counselling represents the element of an interdisciplinary involvement. This determines the behavior, the attitude and the behavior, appropriate to the created situation, so that it really finds its place in the structure of the professional approach of the patient.

**Keywords:** allergy, acceptance, psycho-nutritional counselling

## DIAGNOSTIC CONTRIBUTION OF INFERIOR DIGESTIVE ENDOSCOPY

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**Introduction:** Colorectal cancer is the second most commonly diagnosed cancer worldwide and has an unsatisfactory prognosis. Although a decrease in the risk of colorectal cancer has recently been reported in patients with ulcerative colitis, there still is a increased risk of developing this complication compared to the general population.

**Aim:** The purpose of this assessment was to investigate differences (clinical and demographic factors) by gender in the occurrence of colorectal cancer and adenoma.

**Material and methods:** For this evaluation, a descriptive retrospective study was used, which consisted of collecting data from the observational files of the patients admitted to the Gastroenterology Department of Tîrgu Mureş Municipal Hospital, during February-March 2017.

**Results:** The sample was based on 80 patients, of whom 58% were men, and 69% with urban residence. In the investigated group, 26.25% had adenoma following colonoscopic exploration, of which 15 were males and 10 were women. We have obtained significant statistical differences in the age of patients, namely age over 50 can be considered as a risk factor with a strong association with presence of adenoma. There are differences between men and women, in terms of accused simptomatology, men have weight loss more frequently than women, women have more frequent vomiting and nausea.

**Conclusions:** After analyzing and discussing the results, we can conclude that the risk of colorectal adenoma is increased after the age of 50 years. The study of relationship between certain diagnostic parameters and presence or absence of adenoma has highlighted the fact that abdominal pain can be an aid marker in determining the diagnosis of adenoma.

**Keywords:** colonoscopy, colorectal cancer, adenoma, colitis

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## ANALYSIS OF GLUTEN-FREE DIET IN A GROUP OF PEOPLE FROM TÎRGU MUREŞ

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**Introduction:** Gluten-free diet strictly excludes gluten (a mixture of proteins contained by cereals like wheat, barley, rye and oats). Gluten can induce health problems such as celiac disease, non-celiac gluten sensitivity, gluten-related ataxia, herpetiformis dermatitis, and wheat allergy.

**Aim:** Assessment of dietary habits of people who follow a gluten-free diet in order to test whether there is a difference between clinically diagnosed individuals and undiagnosed people who voluntarily chose to follow a gluten-free diet.

**Material and methods:** We conceived a questionnaire distributed online, using Google Form Application. For data analysis we have divided our sample (no=237) into 2 groups: Group A (no=144) clinically diagnosed individuals following a gluten-free diet and Group B (no=59) clinically undiagnosed individuals. Statistical analysis was made with GraphPad Prism 6.

**Results:** In our sample, women predominated with a share of 74.68% and the urban area was mentioned for 60.75%. Most of the surveyed individuals started a gluten-free diet in adulthood (Group A=84.72%, Group B=79.66%). For 25.69% of diagnosed individuals (Group A), gluten-free diet represents a stress factor in daily life, compared to 6.77% of individuals from Group B (p=0.0003). A share of 63.19% from group A strictly respected the gluten-free diet compared to only 37.28% of Group B (p<0.0001). In strict compliance with diet, the price of gluten-free food products was a problem for 41% of group A compared to 17% individuals from group B (p <0.0001).

**Conclusion:** Clinically diagnosed individuals with a strict gluten-free diet consider that this lifestyle is stressful and expensive, while people who chose to volunteer adopt this diet are not prone to price and stress out probably because their choice is not based on the presence of a diagnosed pathology.

**Keywords:** nutrition, allergy, celiac disease, gluten free diet



## THE PREVALENCE OF FOOD ALLERGY CASES AMONG MURES POPULATION IN RELATION TO ATTITUDES TOWARDS HEALTHY DIET

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**Introduction:** Allergic reaction as a consequence of food ingestion, is in fact an abnormal response of the immune system to certain substances contained in food. Increased diversity of processed food products from all over the world has also led to an increased frequency of people with food allergies.

**Aim:** To identify the prevalence of people with food allergies among Mures county population in relationship with their degree of interest in healthy eating.

**Material and methods:** We have conducted a cross-sectional study by applying a lifestyle questionnaire to a group of 1909 people, aged between 20 to 59 years old. The data collection was carried out in 2015, for a period of 7 months. This number represented a sample from the population of Mures county, using a systematic sampling method (sampling step k=5) and a sample representative for target population.

**Results:** In our sample (of 62% women), 7.43% were allergic to variables food products, and 87% said they were little, very little or not at all concerned about healthy eating, with a powerful link between those with food allergies and unhealthy diets ( $p < 0.0003$ ).

**Conclusion:** Low concern for sanogenous food products practices should be considered as a risk factor for of various forms of food allergies, and adequate educational programs has to be develop in order to avoid this type of manifestations.

**Keywords:** food allergies, healthy eating, lifestyle

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## FOOD PREFERENCES AND FEATURES OF PEOPLE WHO HAS GLUTEN FREE DIET

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**Background:** There is an increasing need for gluten-free products for several pathologies. For this reason the purpose of this subject was to assess the dietary habits of people with a gluten-free diet and also to examine what gluten-free products are satisfying consumers' needs and meet expectations of offer and quality.

**Material and methods:** The study was conducted on a sample of 142 people, with an average age of 38+/-18.33 years, of which more than half had gluten intolerance problems, and data were collected using an online questionnaire over a 7 months period during 2017.

**Results:** Subjects were between 17 and 62 years old, of whom 88% were women. A percentage of 83% should avoid foods containing gluten as a result of medical recommendations and clinical evidence. The taste of gluten-free products does not cause problems for 30% of the subjects. In contrast, analyzing the price of these products, we can see that 39.43% are affected by their too high price. Labeling gluten-free products is another issue, because 28.87% say they do not trust what is mentioned on the labels. In terms of influencing the quality of life of a person who is following a gluten-free diet, 29.57% say the diet is stressful, both physically and mentally. Also 30.98% said that gluten-free diet affects them financially.

**Conclusions:** More and more people, even those without gluten intolerance, want to introduce gluten-free products into their diet. It would be necessary for the gluten-free products to satisfy the needs of consumers, to be more affordable and to meet their expectation.

**Keywords:** diet, gluten free products, product label, lifestyle

## CELIAC DISEASE AND ROMANIAN PATIENT'S ACCESSIBILITY TO GLUTEN FREE FOOD PRODUCTS

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**Background:** Celiac disease (gluten intolerance) is a chronic intestinal disorder of public health concern caused by gluten ingestion in sensitive individuals, for whom is mandatory to be careful about their diet and to look for gluten free products. Gluten is a protein found in cereals, sauces, spices, starch (from cakes to sausages), bran, bere etc. but also as component of drugs and dietary supplements. In our country the frequency of this disease is rising and the lack of gluten free food products in supermarkets is a matter of concern both for patients and physicians as well.

**Goal:** To estimate the frequency and impact of Celiac Disease in Romania, and also patient's accessibility to gluten free products.

**Material and methods:** Our study was based on a cross-sectional research upon 184 Celiac Disease patients from 30 cities, based on a questionnaire regarding gluten free food products accessibility and their quality of life, filled in online, and for statistics we used SPSS 22.0 program.

**Results:** The frequency of Celiac disease worldwide is 1%, is more frequent at women (3:1) and the main treatment is diet with gluten free products. In our sample 97% of subjects were complaining about the lack of gluten free food products on our market and secondly about the high cost involving the purchasing. Patients from lower socioeconomic surroundings have a higher treatment burden and a higher food costs. Gluten free products are more prevalent online than on the shelves, and 8/10 of the preferred products were significantly more expensive than equivalents in supermarkets.

**Conclusion:** We have to promote the needs for diverse, accessible and adequate gluten free products on the Romanian market in order to sustain patients with Celiac Disease, obesity, thyroid malfunction, colitis or diabetes and to improve their quality of life.

**Keywords:** gluten free products, celiac disease, obesity, diet

## HISTAMINE INTOLERANCE AND ROMANIAN RISK PROFILE

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**Background:** Histamine sensitivity results from a reduced capacity for the body to break down histamine in an efficient manner, histamine levels rise and symptoms develop (often misinterpreted, because of their diversity): itching, hives, tissue swelling, hypotension, tachycardia, anxiety, chest pain, rhinitis, headache, fatigue, or indigestion and reflux, even eczema and allergy reaction. Lists of histamine content of food differ widely, and it's difficult to be accurate, especially for fruits and vegetables (even most of studies said fresh is better).

**Goal:** To estimate the risk profile of histamine sensitivity in Romania and diet therapy impact.

**Material and methods:** Our systematic review was based on several recent studies focused on histamine allergies, in Romania and other countries, in order to develop a risk profile management and an adequate diet protocol intervention for these cases.

**Results:** Allergies and food intolerances are a major health problem worldwide, epidemiological data have reported an increased incidence of allergic diseases related to food products and body sensitivity up to 10-30% over the past decades. 1% of the population suffers from histamine intolerance and 80% of those affected are middle-aged, and is generally underdiagnosed. Against all odds, we don't have specific studies about the frequency, diagnosis, therapy intervention, diet characteristics or management of this disease in our country. The following foods and additives have to be avoided: fish, eggs, meat, or milk products that are processed, benzoates, ketchup, seasoning like cinnamon, curry, thyme, vinegar, fermented products, cocoa, alcoholic beverages, soy, beans, apricots, citrus, grapes, strawberries, olives, pickles or avocado.

**Conclusion:** We have to pay more attention to this type of sensitivity in our country and to promote educational programs for General Practitioners, Specialists doctors and Dietitians, to put a quick diagnosis and to recommend a proper diet therapy for improvement of patient's quality of life.

**Keywords:** histamine sensitivity, food allergy, diet

## THE INCIDENCE OF ALLERGIC DISEASES IN FAMILY DOCTOR'S PRACTICE

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**Introduction:** In some families there is a high incidence of allergies due to genetic predisposition to allergic reactions, called atopy. Children from families with atopy develop at least one lifetime allergy as compared to those from non-atopic families where only 1/5 children are diagnosed with various allergies. It is believed that the greatest predisposition for children is that both parents suffer from a certain allergy.

**Material and methods:** In order to accomplish this study, we used two models of questionnaire, one distributed through the Mures General Practitioners Association to 87 family General Practitioners and another for the potential beneficiaries of medical services, users of social networking, forming a sample of 134 patients. The data obtained were centralized, correlated and then statistically interpreted regarding the share of various allergic pathologies in our population, the addressability of patients to healthcare providers and the interdisciplinary management capabilities of these pathologies.

**Results:** 1 out of 10 people were allergic and from those: 28.86% have dermatological allergies, 17.91% have respiratory allergies and 5.97% food allergies. The frequency of patients' addressability for food allergies was similar to dermatological ones, and higher to those of asthma. 73% of surveyed individuals had a family history of grade I-II diagnosed with food allergies, and 91% of physicians consider it important to involve patients in programs to detect / monitor possible allergies that can be developed by their children. Physicians would recommend nutritional counseling for food allergies (40%), dermatological allergies (34%), and to respiratory manifestations (23%).

**Conclusions:** The importance of the multidisciplinary Physician-Dietitian team is evidenced by the increased incidence of addressability of patients with food allergies in the family doctor's office. Patients with allergic pathologies mostly are addressing to the family doctor first, and can be help to take part in allergy screening programs for management.

**Keywords:** multidisciplinary team, allergy, general practitioners

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## THE PREVALENCE OF FOOD ALLERGIES AND INTOLERANCES TO A GROUP OF TEENAGERS AND THEIR DEGREE OF ADDRESSABILITY TO A DIETITIAN

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**Background:** The prevalence of food allergies is reported to be in a continuous increase, but a few people who suffer of these diseases have been diagnosed. When the first symptoms appears, only a few knows the specialists to which they need to appeal to and the importance of diet.

**Material and methods:** A cross-sectional study was carried out on a group of secondary school students from the “Nicolae Iorga” General School, Bacău city, based on a questionnaire with 50 questions regarding to general food behavior along with identification of prevalence of intolerances and food allergies and changes induced in patients nutritional intake.

**Results:** The sample consisted of 117 students aged between 10 and 15, the number of girls being almost equal to that of the boys. Among those surveyed, 36 (30.76%) reported they had been diagnosed with food allergies / intolerances. Among those, 31.9% turned to the family, 22% to the allergy specialist and only 12.1% to the Dietitian, within the first signs.

**Conclusions:** Our results showed that further knowledge of actual data upon food allergies is very important, and because of the low addressability to Dietitian, of people who face such health problems, action should be taken to promote the Dietitian's role in clinical dietetic therapy pathologies.

**Keywords:** teenagers, nutrition, allergies, food intolerances, dietitian

## CELIAC DISEASE - AN ENTITY, SEVERAL PRESENTATION MODES

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**Background.** Celiac disease (gluten-sensitive enteropathy) is one of the major diagnostic entities related to malabsorption syndrome; it has a multifactorial etiology. There are different clinical forms: classic form, latent form, silent form, potential form.

**Aim.** The paper aimed to present some examples of celiac patients with differences in symptoms, clinical signs and diagnostic steps.

**Material and methods.** We present, from personal casuistry, the evolution - to the diagnosis and under diet therapy - of some pediatric patients with celiac disease.

**Results:** MB was addressed for diarrheal stools with onset in infancy, having heredo-collateral history of celiac disease (his father); he had a mild weight deficiency, anemic syndrome, and rapid test (detection of IgA antibodies in blood) was positive; his parents refused digestive endoscopy and initiated gluten-free diet without diagnosis confirmation; at one year's check, the nutritional state was normal, without anemia, the mother reporting the appearance of modified stools if the child consumed small amounts of gluten food. AB presented for irritability, the impossibility of walking, sleepiness; her physical development was normal, with a slightly neuro-motor retardation (walking at 1.2 years); she had a recent episode of respiratory infection followed by greenish diarrhea, abdominal pain and meteorism (labeled as post-antibiotic disbiosis); encephalitis and enteroinfection were ruled-out; laboratory test reveal huge values of the anti-transglutaminase antibodies and deamidated gliadin peptide antibodies; the diagnosis was celiac crisis, with favorable evolution under treatment.

**Conclusions.** The cases we have described reflect the clinical variability of this condition. Having several clinical presentation forms, celiac disease should be suspected and the patient should be carefully investigated irrespective of the type of manifestations (gastrointestinal or extradiagnostic); diagnosis involves symptoms, serological dosing, HLA testing and duodenal biopsy (mandatory).

**Keywords:** celiac disease, diet therapy, celiac patients

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