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Resúmenes de presentaciones en póster en la 3.^a Conferencia de DIETS Dietistas Mejorando los Estándares de Educación y Formación (*Dietitians Improving Education and Training Standards*) en Lisboa, Portugal, 2009

The 3rd DIETS Conference was held last September 2009 in Lisbon, Portugal. Mrs. Anne de Looy, Prof. of Dietetics, University of Plymouth (United Kingdom), authorized *Actividad Dietética* to publish the abstracts of several posters exhibited at the conference. We are grateful to Prof. Anne de Looy for her kindness towards the *Asociación Española de Dietistas-Nutricionistas* and *Actividad Dietética*.

Edited by Anne de Looy and Terry Hyde (Professor Anne de Looy, School of Health Professions, Faculty of Health, University of Plymouth, PL4 8AA, UK (+44) (0)1752 588888)

Ireland

A COMPARISON OF THE DIETARY INTAKES OF PATIENTS WITH TYPE 1 DIABETES MELLITUS (DM) MANAGED ON MULTIPLE DAILY INJECTIONS OF INSULIN ANALOGUES WITH CURRENT INTERNATIONAL DIETARY RECOMMENDATIONS FOR DM

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Introduction: Adherence to evidence-based dietary recommendations for DM is known to improve glycaemic control, however studies have found poor adherence to dietary recommendations in those with Type 1 DM. **Objectives:** To assess the dietary intake of Type 1 DM patients without complications managed on multiple daily injections of insulin analogues. To compare intakes with current recommendations and to patient's HbA1c levels. **Methods:** This cross-sectional study was carried out over five weeks on patients with Type 1 DM without complications, attending outpatient clinics at a Dublin

teaching hospital. Three-day food diaries were provided to interested patients along with guidelines on documenting all food and drink consumed. Anthropometric, biochemical and medical data was documented. Of 64 recruited patients, 42 (17 males, 25 females) returned completed diaries. Data was analysed using WISP and SPSS.

Keywords:

diet, dietary recommendations, insulin analogue, type 1 diabetes mellitus

CHALLENGES AND STRATEGIES IN ASSESSING CLINICAL SKILL ACQUISITION: A STUDY OF THE ASSESSMENT OF PRACTICAL PLACEMENTS AMONGST UNDERGRADUATE DIETETIC STUDENTS IN IRELAND

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Introduction: Assessing skill acquisition and levels of competence in students undergoing practice placement is a complex matter. Anecdotal accounts suggest that assessment tools that are difficult to use complicate this process. This study focused on the assessment process used in the clinical training of undergraduate dietetic students in Ireland. **Method:** This was a substantive, qualitative study carried out by means of a survey of student dietitians (n=23) and their placement educators (n=113) using focus group interviews and questionnaires. **Results:** The study findings demonstrate variation in the interpretation of the assessment process across training sites and they reveal a gap in understanding of student needs on entering placement between the academic staff and the placement educators. They also identify how assessment tools, and the ways in which they are used, are key components in facilitating and monitoring progression. Students and placement educators report that the provision of formative feedback, reflection on practice and self-directed learning are particular concerns. **Conclusions:** The study highlights the need for validation and standardisation of assessment processes, close collaboration between the academic

institution and the placement educators and the importance of training for placement educators. **Results:** Mean age of subjects was 41.2 (± 12.9) years. Mean BMI was 26.5(± 4.6) kg/m². The European Association for the Study of Diabetes (2004) recommend dietary energy from carbohydrate, fat and protein to be 45-60%, <25% and 10-20% respectively. In this study, 52.4% (n=22) met carbohydrate recommendation, 61.9% (n=26) met fat recommendation and 50% (n=21) met protein recommendation. Only 12% (n=4) met all three macronutrient recommendations. Mean HbA1c was 8.1% (± 1.2) versus the International Diabetes Federation (2007) recommendation of <6.5%. Snacks containing >15g carbohydrate were consumed by 76% of patients. Of these, 9.7% (n=3) patients took rapid acting insulin with snacks. **Conclusions:** In this study, patients with Type 1 DM were not compliant with current recommendations regarding dietary composition and snacking. HbA1c levels were higher than internationally recommended targets. Overweight and obesity appear to be increasing in this group. These factors should be taken into consideration when providing dietary education to this patient group.

Keywords:

assessment, practice placement, student learning

Portugal

NUTRITION KNOWLEDGE AND BELIEFS ABOUT NUTRITION EDUCATION OF PORTUGUESE TEACHERS

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Objectives: To evaluate the nutrition knowledge and the beliefs about nutrition education of Portuguese secondary school teachers. **Methods:** A questionnaire was sent to 135 teachers. This questionnaire was divided into two sections: 22 questions relating to beliefs about nutrition education and 30 questions relating to nutrition knowledge (of the latter, 22 questions were about basic nutrition knowledge and 8 about the health nutrition knowledge). The sample characteristics of age, sex and school department were also recorded. **Results:** 67% of teachers responded (n=86). This is an exceptionally high response rate for a postal questionnaire and so it seems that the teachers surveyed believe that nutrition education is important. 95% of respondents agreed that it was important to have a healthy food environment at school. 88% agreed that the school environment affects student food choice. 89% felt that the range of food for sale affects food choice. 93% felt that nutritional health of students should be a priority of the school. On the test of nutrition knowledge, the mean score of the teachers surveyed was just over 18 out of a possible 26, demonstrating a sufficient level of nutrition knowledge that was homogeneous across the four school departments ($\chi^2 = 6.7$ and $p = 0.08$). **Conclusions:** This study suggests that teachers have a concern about the nutritional health of students and the school food environment, considering the importance of nutrition education. Dietitians and other health professionals, who have influence in schools, should act to increase the level of knowledge and training of teachers in health and nutrition.

Keywords:

beliefs, nutrition knowledge, promotion and nutrition education, school environment, teachers

INFLUENCES OF DIETARY PATTERNS ON THE PERCENTAGE OF BODY FAT IN TEENAGERS

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Introduction: Adolescents are a vulnerable group, because during adolescence new patterns and eating habits appear. Studies from the US, Europe, and Australia demonstrate that adolescents tend to have lower than desirable intakes of fruits, vegetables, dairy products, and whole grains but higher than desirable intakes of soft drinks, confectionery, and fast foods. **Method:** This was a descriptive and transversal study, with 937 adolescents (10 to 19 years) of both sexes, who were attending public schools in urban areas of Bragança and Guimarães. The triceps, subscapular and geminal skinfold were measured according to standardised procedures. The percentage of body fat was calculated as the sum of the three folds. It was produced a food frequency questionnaire for self-fulfilment and information of different groups of food was obtained daily. The consumption of food was considered appropriate and not appropriate, based on the American food pyramid. The Mann-Whitney test was used to compare the consumption of foods with the percentage of body fat, the chi-square was used for the sample characterization. The SPSS 17.0 statistical package was used to analyse data. $p < 0.05$ was considered statistically significant. **Results:** The relation between the sex of individuals and their adequate consumption of healthy food showed that female adolescents have a higher consumption of vegetables, fruit, meat, fish and eggs ($p < 0.05$). Although not statistically significant ($p > 0.05$), adolescents with adequate consumption of fruits, vegetables and cereals, have a lower percentage of body fat compared to those with inadequate intake of these foods. **Conclusions:** Although this study has shown that girls have an adequate consumption of fruits, vegetables and cereals and a lower percentage of body fat than the boys, it cannot be said that adequate consumption of these food groups influences the percentage of body fat.

Keywords:

adolescents, body fat percentage, dietary patterns

INFLUENCE OF PRE-PREGNANCY BMI AND WEIGHT GAIN OF PREGNANT ADOLESCENTS ON THE NEWBORN'S WEIGHT

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Introduction: The adolescent pregnancy carries risks for both the mother and the baby. However, risks may be well managed, provided mothers receive adequate prenatal care, early and on a regular basis throughout the period of pregnancy, including the monitoring of nutritional status. The pre-gestational BMI assesses the risk of an initial unfavourable prognosis of the pregnancy, determining the weight gain recommended and dietary interventions. **Aim:** To evaluate the influence on the weight of newborns of pre-pregnancy BMI and gestational weight gain in pregnant adolescents. **Methodology:** The sample consisted of 106 primiparous mothers (14 to 19 years) and their newborns, in 4 hospitals in Oporto and Lisbon from February to June of 2009. The data collection was performed by a questionnaire in the health bulletin of the pregnant and of the newborn. The pre-

gestational BMI and weight gain were classified according to IOM, and the weight of newborns was classified according to WHO. The chi-square and Kruskal-Wallis tests were utilized using the SPSS program. **Results:** The mean age of the mothers was 17.7 years (± 1.4). The pre-pregnancy BMI was low in 24% of mothers, adequate in 62% and high in 14%. Weight gain was appropriate in 49% of mothers, inadequate in 16% and extremely inadequate in 35%. 93% of the babies were adequate weight and 7% low weight. The independent test results showed no relationship between the weight gain of mother during pregnancy and the baby's weight ($\chi^2=0.48$, $p=0.25$). Testing the hypothesis that there are significant differences between pre-pregnancy BMI and weight gain of newborns, we found that there are no differences in weight gain of newborns regardless of pre-pregnancy BMI ($p=0.92$), which is in agreement with other studies. **Conclusions:** The pre-pregnancy BMI and weight gain of pregnant women do not affect the weight of newborns. Thus, women with different pre-pregnancy BMI may have newborns with similar weights, even if there is different weight gain during pregnancy.

Keywords:

adolescents, newborns, pregnancy, weight

CONTRIBUTION TO THE ESTABLISHMENT OF AN INTERVENTION PROJECT AGAINST CHILDHOOD OBESITY AND OVERWEIGHT AT A PORTUGUESE SCHOOL

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Introduction: This study looks at the incidence of overweight and obesity in Externato João Alberto Faria (Arruda dos Vinhos). **Aim:** The aim was to identify the variables that cause overweight and obesity and to define intervention in the health educational field related to healthy lifestyles that would reduce overweight and childhood obesity. **Results:** BMI measurements of 432 students (54% female, 46% male) were taken. This showed that 31.7% were overweight and 10.5% were obese. Overweight and obesity were more evident in the younger students and in the girls, despite the fact that boys were more obese. Such results point to intervention in certain areas: improving eating habits, increasing physical activity, diminishing sedentary hobbies and also influencing the beliefs and attitudes of children and their parents. This intervention project has the following goal: to reduce the prevalence of overweight and childhood obesity through the acquisition and development of attitudes and behaviours and the promotion and adoption of healthy habits and lifestyles. **Conclusions:** Changing attitudes and behaviours resulting in an improved lifestyle is difficult and takes time. Therefore, the need for an integrated approach is crucial in order to Filiation the several causes of the problem that form the focus of the intervention.

Keywords:

childhood obesity, intervention project, school

CLINICAL DATA, EVOLUTION AND SURVIVAL OF PEG FEEDING SENIOR PATIENTS

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Rationale: In dysphagic patients, PEG is the choice for long-term enteral feeding. Elderly patients (> 65 years) frequently need tube

feeding for long periods. Because of lower life expectancy, PEG placement may not be worthwhile. The aim of our study was the retrospective evaluation of clinical data relating to PEG feeding in elderly patients, and their progress and survival after PEG placement. **Methods:** From the files of the first 255 PEG patients of our hospital (1999-2008), we selected a group A of patients over 65 years of age and a group B of patients over 80 years of age. Within each group, we analysed the diagnosis, the patient's progress, survival after PEG placement, and death or PEG removal. **Results:** Group A included 112 patients suffering from: neurological disease (72), head and neck cancer (32), other diseases (8). Neurological diseases included 30 stroke patients, 15 with amyotrophic lateral sclerosis and 8 Alzheimer patients. Survival periods ranged from 1 month to 7 years (mean: 12 months). Half of the patients (36) are still under PEG feeding, 32 died, 3 resumed oral feeding and 2 were lost for follow-up. Group B included 26 patients suffering from neurological disease (19), head and neck cancer (4), other diseases (3). Neurological diseases included 9 stroke patients, 2 with amyotrophic lateral sclerosis and 3 Alzheimer patients. Survival periods ranged from 1 month to more than 3 years (mean: 10 months). Most of the patients (19) died, 6 are still under PEG feeding and 1 was lost for follow-up. None resumed oral feeding. In both groups, the reduced survival cases were stroke patients who died from a second stroke short after PEG placement. **Conclusions:** PEG was useful in senior patients with a broad spectrum of diseases, including patients older than 80 years. Mean survival after PEG was one year. As shorter survival was observed in stroke patients, it may be useful defer PEG placement in this group.

Keywords:

enteral feeding, PEG, senior patients

PERCUTANEOUS ENDOSCOPIC GASTROSTOMY WITH JEJUNAL EXTENSION IN PATIENTS WITH STOMACH OR DUODENUM NEOPLASTIC OBSTRUCTION

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Rationale: Percutaneous endoscopic gastrostomy with jejunal extension (PEG-J) or gastrojejunostomy allows post-pyloric enteral feeding. The usual indications for PEG-J placement include patients with acute pancreatitis or with increased reflux susceptibility. PEG-J has seldom been reported as palliation in patients with cancer. We report our experience of five patients with obstruction of the upper GI tract caused by growing tumours. **Methods:** From the clinical files of patients with PEG-J, we selected five with obstructing upper GI tumours. Those patients were unsuitable for surgery or endoprosthesis placement and a 20F PEG with a 12F jejunal extension tube was placed in order to be used as an enteral nutrition access. **Results:** Patient 1: A metastasis of a colon cancer compressed the stomach and duodenum. The PEG-J was used for nine weeks, until chemotherapy reduced the mass and the patient could resume oral intake. Patient 2: Large gastric cancer with stasis. PEG-J placement was useless due to peritoneal carcinomatosis. Patient 3: Pancreatic cancer invading the duodenum. PEG-J was successfully used until displaced. Patient 4: Dysphagia after a stroke. Gastric stasis was evident after the placement of a nasogastric tube. An upper GI endoscopy disclosed a previous Bilroth II surgery and a large polypoid mass obstructing the efferent loop. A PEG-J fed the patient, until he died from a second stroke. Patient 5: Gastric antrum cancer, fed at home through a PEG-J for eight months. This allowed the usual daily activities until a few

weeks before death, caused by hepatic metastasis. **Conclusions:** In our experience, palliation with a PEG-J was useful in selected patients. It should be considered more frequently, when chemotherapy depends on nutritional support or for nutritional palliation.

Keywords:

gastrojejunostomy, neoplastic obstruction, percutaneous endoscopic gastrostomy with jejunal extension

OPTIMISING NUTRITIONAL SCREENING THROUGH A WEB-BASED APPLICATION

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Background: Nutritional status is one of the most important health determinants. Nutritional status is known to have great impact on sick people, affecting the immune system and the response to medication. Several studies have shown prevalence of malnutrition between 25 to 40% among hospitalised individuals and a positive correlation with malnutrition and health costs. Several authors have suggested the use of information technology systems as a resource in accessing health information and evaluation procedures. Risk nutrition assessment is considered important in the management of dietetic interventions, especially in intensive care units, thus allowing defining more individualized nutritional strategies, with better results and possible cost reduction. **Objectives:** The objective of this work was to develop a tool to allow organized and structured input, access and output of nutritional information on admission of patients and through their hospital stay. **Methods:** This application was developed considering several modules, using database web design software. **Results:** This web based application follows the progress of patients through a series of steps within the care unit. There are several events associated with each of these steps, eg nutritional evaluation, clinical analysis, food intake, and others. The web based application also considers administration and configuration modes of the specific care unit thereby allowing the personalizing of the unit to the patients. **Conclusions:** The application, which is innovative and versatile, provides quick access to complete information on the patient, improving clinical and nutritional evaluation, and allowing the prescription of better nutrition support.

Keywords:

dietetic web tool, information technologies, nutritional assessment

Greece

DEPRESSIVE SYMPTOMATOLOGY, APPETITE AND BMI IN THE EUROPEAN SAMPLE OF SHARE (STUDY OF HEALTH, AGEING AND RETIREMENT IN EUROPE)

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Introduction: According to the findings of international scientific studies, ageing seems to be associated with a series of profound social-economic changes and psychosomatic distortions. Nowadays

depression is one of the commonest mental illnesses and, according to the World Health Organisation (WHO), it affects millions of people in the world. The depressive symptomatology refers to the perception of self as depressed, helpless, discouraged and disappointed for a certain period. Depression can be caused by several factors that may take effect independently or in coordination with each other. The symptoms of depression can be depressive mood, diminished interest for life, suicidal ideation, loss of energy or concentration, inattention, sleep and eating disorders and others. According to studies, depression usually causes diminution of desire for food resulting in weight loss. However, a minority of patients present overeating.

Aim: The aim of this study is to examine the correlation between the depressive symptomatology and the loss (or not) of appetite in the southern European countries (Spain, Italy, Greece). In addition, the study examines the correlation between BMI and depression.

Method: Data was collected from the Study of Health, Ageing and Retirement in Europe (SHARE), which took place in 13 countries. The study population was a randomised European sample of 31115 people, a sub-sample of whom (7853) were born before 1 January 1955 plus their possibly younger partners. **Results:** The results showed that people over 50 with depressive symptoms present a higher percentage of diminution of desire for food in relation to the non-depressed ones. No significant difference in BMI measurements was found between depressive and non-depressive people.

Conclusions: This contradiction may be because people with depressive symptoms may eat less but prefer foods higher in glucose to overcome their depressive mood.

Keywords:

ageing, appetite, BMI, depressive symptomatology, eating disorders

THE INTERRELATION BETWEEN THE NUTRITIONAL STATUS AND THE LONELINESS LEVELS OF ELDERLY PEOPLE

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Rationale: According to many studies, elderly people who live with their partners or their extended family appear to have better nutritional, psychological and apparently better standard of living compared to elders that either live alone or in a nursing home. **Aim:** This study was designed to assess the dietary habits of elderly people, as well as to examine any correlation between dietary habits and loneliness levels. **Method:** The research was conducted in Heraklion, Crete and it looked at 150 elderly men and women (60 years or older). 50 of the elderly lived in a nursing home; 50 lived alone, and 50 lived with a relative or friend. Data was collected using two questionnaires. The first one (MNA: mini nutritional assessment) investigated the nutritional state of elderly people. The second one (UCLA loneliness scale) determined the levels of loneliness. **Results:** Results showed that 44.4% of the elderly people who were in a poor nutritional condition displayed severe loneliness compared to those that appeared to have satisfying nutritional levels (12.2%). 33.3% of those who lived alone were in a poor nutritional state as were 55.6% of those who were institutionalised. Those that were living with a relative (46.4%) and had not reduced their nutritional intake for the last three months (62.5 %) indicated low loneliness levels in contrast to those that were living alone (50%) and had a reduction in food intake for the last three months (14.3%), had higher loneliness levels. Severe dementia was associated with profound loneliness (10.7%) and poor nutritional state (38.9%). **Conclusions:** The nutritional status of elderly people seems to be associated with their level of

loneliness as well as whether they lived alone, with loved ones or in a nursing home.

Keywords:

elderly people, loneliness, nutrition, state of living

MENOPAUSAL OSTEOPOROSIS AND THE COLLABORATION OF MEDICAL DOCTORS WITH DIETITIANS

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Introduction: Because of decreased oestrogen production, bone density loss holds a prominent place among menopausal symptoms. **Aim:** Our aim was to study the degree of collaboration between medical doctors and dietitians in the prevention and treatment of menopausal osteoporosis. **Methodology:** A questionnaire was handed out to 130 private and hospital doctors in 4 specialties (gynaecology, orthopaedics, endocrinology, and rheumatology), in the two most high-populated cities of Greece: Athens and Thessalonica. **Results:** No preventive treatment was recommended to healthy menopausal women by 71.1% of doctors while 28.9% do recommend some diet changes. Of the doctors who provide therapeutic treatment 78.3% of doctors reported that provide dietary recommendations also. The body weight of menopausal women was found to be the last factor taken into consideration when determining treatment. 44.6% of doctors reported that they refer patients to an independent dietitian for dietary treatment, whereas 37.3% provide only simple dietary recommendations. In conjunction with calcium and Vitamin D supplements, 66.3% of the doctors encourage an increase in the consumption of milk and dairy products, whereas 41% of doctors recommend increased vegetable, fruit and fish consumption, and 37.4% decreased meat, bread, and cereal consumption. **Conclusions:** The advice of medical doctors regarding dietary treatment agreed with that of a healthy balanced diet, without emphasizing specifically other nutritional factors, ie excluding the dairy group (for which increased consumption is always recommended, which might improve bone density or reduce its rate loss. However it was generally observed that there was a good will for collaboration between doctors and dietitians concerning the therapeutic but unfortunately not the preventive treatment of menopausal symptomatology.

Keywords:

dietitians, doctors, menopausal osteoporosis, nutrition

EVALUATION OF NUTRITION CARE AND DIETETIC SUPPORT IN GREEK HOSPITALS DURING 2006-2007

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Rationale: The European Council (EC) recorded the dietetics services provided in European hospitals in the period 1999-2002. Hospitals from 12 European countries were screened on organization characteristics concerning clinical nutrition and dietetics. Since Greece

did not participated in the EC research, this study collected the relevant data for the country. **Method:** Research was carried out using a questionnaire, based on those used for the EC survey in Portugal, Germany, and France. The postal questionnaire (15 questions) was sent to all Greek public hospitals. The answers were provided by the responsible dietitians and doctors, confirmed and stamped by the administrative director of the hospital. **Results:** Of 125 public hospitals, 70 responded. This corresponds to 60% of the hospital beds in the country. The 84 dietitians recorded as working in the hospitals that replied, correspond to about 21,600 hospital beds (about 1 dietitian per 300 beds). In 23 hospitals, there exists a nutrition-dietetics department but with no dietitian. Most of the hospitals lack a nutrition support team; only 9 report such a team. Formal collaboration between medical doctors and dietitians, on enteral and parenteral nutrition, was recorded in 14 hospitals. Most psychiatric hospitals lacked dietitians. **Conclusions:** The Ministry of Health should give specific attention to public dietetic services, to upgrade them. The professional associations of Greek dietitians can also exercise their influence in due course.

Keywords:

dietetics, Greece, hospitals, nutrition, services

DIETARY TREATMENT OF DIABETES MELLITUS TYPE 1: COLLABORATION OF MEDICAL DOCTORS WITH DIETITIANS

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Introduction: Dietary treatment of Diabetes Mellitus Type 1 (DM1), as well as pharmaceutical treatment, seems to reduce complications in patients. **Aim:** To study the nutritional habits of children with (DM1), the dietetic directives that they received from medical doctors, and the collaboration between medical doctors and dietitians on treatment. **Method:** The weight and height of 120 children (69 boys, 51 girls) aged 6-19 years was measured. The children were all from Paediatric Hospital "P.A. Kiriakou" and had been diagnosed with DM1. A questionnaire with demographic elements and medical background was completed, as well as a food frequency questionnaire. **Results:** Parents and children agreed that the contribution of the dietitian in the regulation of DM1 was important, and 90.8% complied with the directives of the doctor or the dietitian. The doctors gave general advice to reduce consumption of sweets and alcohol and to increase consumption of vegetables and legumes. In all cases, the doctors suggested further guidance from a dietitian. 4.2% of the children were underweight; 85% were normal weight, 2.5% were overweight, and 8.5% were obese. 92.5% ate 6 meals daily. 73.3% had symptoms of hypoglycaemia once a year. In 7.5% of children, glycated hemoglobin (HbA1c) was very well controlled (5-5.9% of total hemoglobin was HbA1c). In 43.3% of children it was well controlled (6-7%), and in 38.3% it was not well controlled (8-9%). The average daily consumption (in portions) of the 5 food groups was: dairy products 3.2, meat-fish 2, cereal 5.1, vegetables 3.8 and fruits 3, which conform to the recommended quantities. **Conclusions:** The successful collaboration between the medical doctors and the dietitians, as well as the high compliance with their instructions appear to have a favourable result on the weight, frequency of hypoglycaemia, and nutritional status of paediatric patients.

Keywords:

diabetes mellitus 1, dietitians, doctors, nutrition

Hungary

THE INTERNSHIP DURING DIETITIAN TRAINING FOR OLDER ADULTS

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Introduction: The professional internship areas, Clinical Dietetics, Paediatric Nutrition and Dietetics, Surgical Dietetics and Catering Management, also include and internship, 30 hours and 1 credit, in the older person. The rise of number of elderly people, all over the Europe means that it is important that students have an internship in the older person in the last semester of the dietitian training. In Hungary the registered dietitian can work as therapeutic dietitian and as catering manager. **Aim:** The aim of subject is to introduce students and get then acquainted with tasks of dietitian and catering manager work in elderly home. **Method:** Students have to document and report to the Department of Dietetics and Nutrition Sciences assessment of nutritional status of 3 older adults those who live in elderly home. The method used is a validated MNA (Mini Nutritional Assessment), which has been designed for this age group. The form is a dietary assessment using a 24-hour recall method on two non- consecutive days. **Results:** The assessment is then compared with institution menu. The nutritional requirements are estimated and compared to the real nutritional value using the NutriComp programme. The leader of student internship is specially trained by the Faculty lecturers and is able to evaluate the students work. A summary of dietary advice (oral and written) for elderly person is made. Documentation of Food Service (personal, material, financial conditions, and number of elderly people, as well as diet menus) is also produced. **Conclusions:** The dietetic intern learns about the involvement of the dietitian in supporting the nutritional health of the older person

Keywords:

education, elderly people, internship

THE ROLE OF DIETITIANS IN THE MANAGEMENT OF FOOD ALLERGY IN HUNGARY

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Introduction: In Hungary the prevalence of food allergy is 1% in adults and 2-9% in children aged 0-3 years. The treatment for food allergy is a lifelong allergen elimination diet that should be implemented only with appropriate information about allergen content and dietetic management. **Aim:** The aim of the research is to find the best intervention points or strategies for patients suffering from the food allergy. **Method:** We used multi-criteria, computer background interview method. The interviewers questioned the authoritative specialists of the different areas (eg health care and scientific sector, division of the market, consumer protection, patient organisations). We examined the opinion of different areas based on several criteria and developed an opinion spectrum. The interview contains twenty options and gathered the viewpoints (feasibility, cost-benefit, concerned group) of the specialists. The interview consists of four parts being built each other and the results were statistically analysed. Three criteria were considered to be important and it was not possible to emphasize

one of the criteria. It was the judgement of the specialists that there is need for all three criteria to be respected. **Results:** The education of dietitians and catering managers is very important in the management of food allergy. Labelling of foods was considered to be very important and an important intervention point primarily due to the feasibility and the expense efficiency. The food producers could use media and marketing and the consumer protection specialists and the patient organisations' representatives agreed that fair allergen labelling a good intervention point. However the consumers suffering from food allergy cannot always understand the information on the labelling, therefore it is necessary that the allergic consumers are provided with education. Measures which may be effective in changing the social environment to reduce allergens was also considered to be important.

Keywords:

allergen labelling, allergy management, diet therapy

USE OF NEW INFORMATION TECHNOLOGY IN COMPETENCY-BASED DIETETIC EDUCATION

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Introduction: The spread of the internet in human life is growing, but social networking websites are usually thought of as a hobby or entertainment and not for academic or professional development. The use of Google Group is a good example how to construct a virtual counterpart to academic (lecture, seminar) student activities with the help of the internet. **Materials and methods:** During the third year of dietetic education (credit-based education, BSc), 'Nutrition in Sport' is an elective course. As an extension of this, the lecturer established an information site for the 10 students on the course. The course is listed among the clinical subjects in the curriculum, and as it is an elective one, the students attending this should be interested more in the subject (sports, performance). On the online platform, the materials from the lectures (PPT, PDF, and DOC), literature (PDF), references and links can be accessed right after the lessons. All the students have a sub-site according to their interest (seminar essay) that they develop continuously. According to the syllabus of the lectures, the lecturer invited a professional from each sport who answered questions from the students. **Conclusions:** This interactive site provides students with an additional communication medium outside the classroom, eg the ultra-triatholoinist is living in Switzerland; the ultra-runner was taking part in a fitness camp in Greece. At the same time, the exploitation of the almost limitless internet and 'continuous connection' to the lecturer permitted the high level of knowledge gained (the achieved average was 4.90 (excellent: 5, inadequate: 1)). The level of seminar essays made 1 more students' scientific work, one diploma work, two conference oral presentations and more articles possible.

Keywords:

dietetic education, informational technology, internet

THE PROFESSION OF DIETETICS IN HUNGARY – THE CURRENT SITUATION

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Aim: In the last decades the Hungarian Dietetic Association (HDA) has conducted 4 surveys of dietitians concerning their position, role and

opportunities open to them. The results of these surveys helped define the purpose of the Association. Furthermore, the repeated surveys made it possible to examine and compare changes in the working conditions of dietitians. **Methods:** In 2002, 2005, 2007 and 2008, Chief Dietitians completed questionnaire surveys. We involved other professional societies in the survey in order to improve the efficacy of the communication of the result. The questions asked about the type of institution employing dietitians and their catering, the number of patients, the role of dietitians in the structure of the organization, their activity from the view of their profession and time, and the amount spent on clinical enteral nutrition. All statistical calculations were performed using SPSS, version 13.0 computer program. **Results:** In 2002 the number of patients for one dietitian was 150, in 2005 it was 130, in 2007 this number reached the 171, while in 2008 this number dropped to 143 patients. The outsourced catering rose from 7.8% in 2005, to 21% in 2007, while this percentage was 22% in 2008. The spending on raw materials increased significantly in the last six years: in 2002 it was 321 HUF*, in 2005: 361 HUF, in 2007 it was 332 HUF, while in 2008 it reached 550 HUF. The amount spent on enteral nutrition has also showed changes in the last 6 years: in 2005 it was 58% of the amount spent on medicines, in 2007: 68%, while in 2008 it was 64.7% (*100HUF = €0.4). **Conclusions:** Our published results have influenced the decision of the health policy-makers, eg increasing the money spent on raw materials and establishing nutrition support teams with the coordination of dietitians.

Keywords:

dietitians, financing, policy-makers

PRELIMINARY RESULTS FOR USE OF ILLNESS MARKER IN HEART FAILURE PATIENTS

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Background: Heart failure is characterized by disturbances in body fluids, both in distribution and in volume due to a series of neurohormonal changes. In the everyday clinical situation, disturbances in fluid balance are often estimated, as precise measurement is difficult. Bioimpedance analysis (BIA) is a proven method to measure changes in body water spaces. With BIA, a new parameter, Illness Marker (IM) can be determined. IM does not require the measurement of weight and height, thus it can be a good solution. **Aim:** Our aim was to describe the body composition of patients with different severity of heart failure and to describe the potential clinical use of IM in this patient population. **Methods:** Body weight and height were measured where it was possible. BIA and IM measurements were done using Quadscan4000 equipment. Heart ultrasound was used to determine the systolic function of the heart. Statistical analysis was done by descriptive statistics, T-test and linear regressions. **Results:** Thirty-five heart failure patients were randomly selected and their BMI measured. Their mean BMI was 29.8 (± 5.3). Body fat proportion indicated an obese population. The mean ratio of extra- and intracellular fluid was 0.81. All the patients had an intracellular fluid proportion below the normal value. The extracellular fluid and third space volume correlated strongly with functional class. The mean of IM (0.830) showed a deteriorating situation and correlated well ($r=0.57$; $p<0.05$) with the NYHA functional class. According to the Student's T-test, there was a significant ($p=0.02$) difference in IM between the group of NYHA I-II and III-IV class. **Conclusions:** In line with high BMI and high body fat, fluid disturbances were also present in our patient population. The

correlations between the body water spaces and IM and functional class show the potential clinical role of IM. The results suggest that IM can be a useful non-invasive tool in the management of heart failure patients.

Keywords:

bioimpedance, heart failure, illness marker

THE ROLE OF PACKAGING IN HEALTHY EATING CHOICE

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Aim: It is generally known, that the products found on the shelves of supermarkets determine what we eat and how our eating habits evolve. By finding a way to motivate consumers to obtain necessary information from the packing of food, this could influence their food-choice and encourage healthy eating. **Method:** 120 consumers (aged 20 – 50 years, with a wide-ranging variety of educational qualifications and jobs) were selected from two big Hungarian cities and asked to complete a questionnaire (25 questions). The first part of the questionnaire covered the relationship between healthy eating and food products; while the second covered food packaging and other factors that might determine food-choice. **Results:** Respondents were aware of the importance of the food choice regarding their health. They people put healthiness as the main reason for choosing a food product, above that of price or flavour. Respondents found the information on packaging unclear and unhelpful in choosing a healthy eating diet. **Conclusions:** Although consumers would like meaningful information on food products and there are many laws regulating printed information, the two interests do not meet and consumers do not get the information that they actually need in order to make healthy eating choices. People are aware of the importance of food-choice from the view of healthiness and they wish to get more information regarding the properties of products, but the vast amount of information on packaging is difficult to understand. This lack of clarity makes customers indifferent to the messages on food products and this may reduce their motivation to make healthy food-choices.

Keywords:

alimentaries, choice, packing

Lithuania

ANALYSIS OF FACTORS AFFECTING PROFESSIONAL BEHAVIOUR OF HEALTH CARE SPECIALISTS: LITHUANIAN CASE

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Objective: To analyse those factors that influence the professional behaviour of health care specialists (HCS) in different age groups, highlighting underlying elements specific to each age group. **Method:** Using a questionnaire, practising HCS, employed in Lithuanian health care institutions, and students of Vilnius College Faculty of Health Care were asked for their opinions on those

factors that affect the professional behaviour of HCS. **Results:** The conditioning professional behaviour of HCS was influenced by the attitude of different age groups and this was a statistically significant difference ($p < 0.05$). Employers need to fix attention on proper organisation of professional activity, to define workload, boundaries of activity and responsibility clearly, to emphasize communication and cooperation among health care team members, especially at that point when adaptation of young specialists in the new environment is going on. If the professional activity of each young specialist corresponded to work career expectations fostered during studies' period then essentials of professional behaviour would be shaped accordingly. Through the cooperation among educational institutions and health care establishments professional attitudes and values, which will facilitate the professional behaviour of specialist in the future would be developed. Management of organisation may be a significant factor promoting major organisational change. The motivation of professional behaviour of the most employable HCS group (40-49 years old) is necessary, because this is related to successful activity of the institution. **Conclusions:** After analysis of empirical experience of the HCS group it may be stated that health care is changing from task-oriented to team, holistic health care, in which practising HCS perform leadership function. However the attitudes of the older professionals may delay change as management of the organisation must be perceptive, competent and open to change.

Keywords:

health care specialists, professional activity, professional behaviour, professional characteristic, system of professional values

PARTICIPATION OF STUDENTS IN THE CONTROL OF OVERWEIGHT IN PRIMARY HEALTH CARE

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Background: Students of Kaunas University of Medicine on dietary placement training were involved in a study looking at overweight control in primary health care. The aim of the study was to evaluate the possibilities of weight control by applying minimal intervention. **Methods:** Anthropometrical measurements were taken of patients aged 18-65 years from two GPs and those with BMI > 25 (overweight) were selected for the study. There were 192 overweight patients in the intervention group and 130 in the control group. Overweight patients were questioned using a special questionnaire. Blood pressure, height, weight, waist circumference, blood cholesterol and glucose were measured. In the intervention group, the GP gave advice on how to change diet and increase physical activity. In the control group, the GP told the patients only that they were overweight and advised them to reduce weight without deeper explanation. After a year, patients were examined and anthropometric measurements repeated. **Results:** The initial measurements showed that the BMI mean of the men in the intervention group was 31.7 kg/m². Among women, it was 32.1 kg/m². In the control group the BMI mean for men was 30.1 kg/m² and for women 29.5 kg/m². After a year a statistically significant reduction in weight, BMI, waist circumference as well as systolic BP were observed among men and women of the intervention group. Men lost 3.8 kg and women lost 3.6 kg on average. The reduction of body weight in the intervention group was related to changes in eating and physical activity habits. The decrease in body weight in the control group was statistically insignificant. No changes in the levels of the risk factors of chronic diseases were found. **Conclusions:** The GP's minimal intervention helps to reduce

body weight as well as other risk factors of chronic diseases; therefore it is beneficial for control of overweight in the community.

Keywords:

dietary placement training, nutrition habits, overweight, physical activity

DIETARY ASSESSMENT OF PATIENTS WITH LACTOSE INTOLERANCE

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Background: At Kaunas University of Medicine, research is a part of the training for residents and Master's students. Collaboration with placement trainers helps them to find a topic for their research work and to perform it. The aim of this study was to evaluate the diet of patients with lactose intolerance. **Methods:** 54 patients with dyspeptic symptoms underwent upper gastrointestinal endoscopy in Kaunas University Hospital. A quick lactose test was used for assessing hypolactasia. The diet was evaluated using two 24-hour recalls and a food frequency questionnaire.

Results: Half of the patients had mild hypolactasia. The prevalence of severe hypolactasia was 25.9%. A significant number of patients with severe hypolactasia consumed some milk products less often than once a week: milk - 57.2%, sour milk - 71.2% and cottage cheese - 64.3%. Those with severe hypolactasia used fermented cheese was more often compared to those having mild hypolactasia. The diet of those with severe hypolactasia contained too much fat and especially saturated fat. The proportion of saturated fatty acids in total energy intake was 15%. Carbohydrates constituted 34.4% of total energy in men and 38.5% of energy in women. The share of sugars in total carbohydrates was relatively high: 11.6% of energy in men and 16.5% of energy in women. Average intake of calcium was only 50% of recommended daily intake: 537.2 mg in men and 502.6 mg in women. The diet of the women lacked vitamin D (mean intake 3.4 µg). Only 28.6% of patients with severe hypolactasia reported that they received dietary advice from health professionals. **Conclusions:** The diet of patients with lactose intolerance did not correspond to the recommendations of healthy nutrition. Because of low intake of milk products, the supply of calcium and vitamin D was insufficient, so those people were at risk of osteoporosis.

Keywords:

24 h recall, food frequency, lactose intolerance

Spain

LIFELONG LEARNING FOR DIETITIANS: NUTRITION AND HEALTH

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Rationale: Lifelong learning courses constitute a valuable alternative for the continuous education of health professionals such as dietitians. Information about nutrition and health is especially important because of recent advances in these areas. Additionally, systems of interactive videoconferences open new possibilities in

this area as well as self-evaluation processes through the internet. **Aims:** The main aims of the Courses are: a) updating terms of nutrition and applying them in the day-to-day practice b) offering the knowledge and facilities to make and evaluate balanced diets according to modern criteria and c) giving the capacity for the dietetic advice and implementing therapeutic diets in different pathophysiological situations. **Methods:** These courses enable students to work from home via interactive communication. Activities include tutorials and permanent consulting by fax, mail or internet. The course material is also based on specific texts, DVDs, computer programs, CD-Rom and video broadcasting of conferences. **Results and conclusions:** Since 1995, we have developed different courses such as "Nutrition, Dietetics, Diet Therapy", "Hospital Feeding", "Nutrition and Obesity", "Nutrition in the Infancy and Adolescence", "Nutrition for Elderly", "Foods: Composition and Properties" and "Nutrition and Public Health". Course evaluation is usually performed through multiple-choice tests and case-studies. Passing the exams is required in order to obtain the Diploma from the University of Navarra. Additionally, a Commission of Continuing Education from the National Health System accredits all the courses. Throughout the courses collaboration with AED-N (Spanish Association of Dietitians Nutritionists) and CODINNA (Official College of Dietitians Nutritionists of Navarra) continues.

Keywords:

dietitian, education, lifelong learning (LLL)

DEVELOPMENT OF AN ONLINE QUESTIONNAIRE TO BE USED AS A QUALITY CONTROL TOOL IN STUDENT LAB WORK IN NUTRITION AND FOOD SCIENCES

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Introduction: INDONUTyB (Investigación en docencia en el Área de Nutrición y Bromatología) is a group created at the University of Alicante and devoted to the development, characterization and application of different teaching methodologies to topics related to Human Nutrition and Food Chemistry. **Method:** Usually, 50 % of the course credits in these subjects come from lab-work, so it is important to be able to assess the lab-work using a systematic approach. To this end, an online questionnaire was developed and tested with students of Toxicology and Nutrition and Physical Activity subjects. The questionnaire has a slightly different design depending on the subject considered but mainly consisted of a three groups of questions. A first group of questions related to demographic and personal issues, a second group related to the general organization and function of the laboratory and a third group focused on the student's opinion of the developed work. **Results:** Results obtained show that this tool can be useful for pointing out aspects of the lab-work that need to be improved. For example, some of the conclusions drawn from the answers gathered from academic year 2008-2009 include: a selection of new activities type (seminars); the sort of work (cooking healthy recipes), better time schedule or more emphasis on the maths of the activities developed. In addition more information about the needs of the students are known so the organization of the laboratory can be adapted to them, for example in toxicology most of the students do not have a good level of English so that the bibliographic resources should be in Spanish rather than in English. These and other points will be presented and discussed in the presentation.

Keywords:

dietetics knowledge, lab-work for nutrition students, teaching methodologies

DIETARY HABITS, WAIST/HIP RATIO AND BODY MASS INDEX OF A GROUP OF MATURE AND ELDERLY PEOPLE IN MADRID, SPAIN

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Introduction: Spanish population traditionally has consumed a Mediterranean diet with the typical variations on the central zone of the Iberian Peninsula. **Aim:** The aim was to investigate the dietary habits, BMI and waist/hip ratio in mature and elderly people from Spain and the European Community (69.3%) and other countries: South America (17.5%), Morocco (4.6%), East Europe (4.3%), Iran-Iraq (2%) and China/Thailand (2.3%). **Method:** A sample of 135 people selected at random was studied (71.8% women and 28.2% men) with ages ranging from 22 to 88 years. They were questioned on the frequency of their consumption of different foods, lifestyle and dietary habits, with a previously validated specific questionnaire.

Results: BMI measurements showed that 47.7% of subjects from Spanish-European community countries or immigrant population of South America were normal weight and 39.2% were overweight. Measurements of waist/hip ratio showed that 15% of the men had values higher than 1. Of the women, 10.1% had values higher than 0.85. In order to prevent obesity it appears to be necessary to control the composition of the diet. The habitual adding of salt to meals was higher in Spain and other European Community countries (42.9%) and Morocco (28%). This was higher than those from Eastern Europe (14.3%) and South America (14.3%). This is important because a large proportion of the European population have high blood pressure requiring medication. **Conclusions:** It is necessary to pay attention to dietary and lifestyle habits in order to prevent disorders and obesity.

Keywords:

BMI and waist/hip ratio, elderly people, food habits, mature people

EVIDENCE-BASED DIETETICS AND APPLIED NUTRITION (EBDAN): A TOOL FOR DIETETIC BEST PRACTICE

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Introduction: Dietitians should work using the best practice knowledge. The great amount of data published on dietetics and nutrition has created the need to summarise findings and conclusions based on the best empirical evidence available. **Objectives:** To develop a practical classification system of evidence levels for dietetics and applied nutrition science research that will enable dietitians to make evidence-based recommendations and prescriptions. **Methods:** A review was conducted to identify articles evaluating different methods of classifying studies in light of evidence-based criteria. Databases consulted included PubMed, Embase, Scopus, FSTA and Scielo. Selected articles included those published in English, Spanish, French, Italian and German. **Results:** Despite the large amount of technical literature available that Filiaiones the classification of scientific evidence, only a few authors provide clear descriptions and even fewer studies are specifically applicable to the fields of dietetics and applied nutrition. Moreover, only a limited number of publications took into account that one has to evaluate: the type of study design, the quality of individual studies selected to be included in the review, the study sample size and the length of the intervention. In addition, none of the papers selected in the present review considered that the evaluation methodology of the studies should be practical and adapted to the theoretical knowledge base of dietitians. The currently

developed tool, Evidence-Based Dietetics and Applied Nutrition (EBDAN), is surely the first system of evidence-based classification that takes all these factors into account. **Conclusions:** EBDAN is a new practical tool for dietitians that is based on sound rational evidence on which to develop and review guidelines, validate nutrition and health claims, establish a wide variety of recommendations as well as to apply to preventive and therapeutic decision-making.

Keywords:

dietetic practice, dietetics, dietitian, evidence-based, nutrition

PRACTICE-BASED LEARNING: ENHANCING PUBLIC HEALTH THROUGH DIET AND PHYSICAL ACTIVITY

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The European Commission has recommended that cooperation between the health, education and sport sectors be promoted at ministerial level in the member States. This is in order to define and implement strategies to reduce overweight, obesity and other health risks such as cardiovascular diseases and diabetes. In this context, a citizenship programme for individuals with cardio-vascular risk factors has been developed in Lleida (Spain). This citizenship programme has been used for practice placement learning included in Lleida University's study programme: Human Nutrition and Dietetics. The student is trained to give general nutritional advice to cardio-vascular risk factors groups. Competences such as capacity for applying knowledge in practical work, interpersonal skills and ability to work in a interdisciplinary team, that have been considered important for the professional development of university graduates, are gained in this practice placement learning.

Keywords:

diet, physical activity, practice placement learning

WHAT CHILDREN AND YOUNG PEOPLE EAT IN SOME SCHOOLS IN THE COUNTY OF OSONA (SPAIN)

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Method: The Health Department of Generalitat de Catalunya, together with the Agency for Health Protection in Osona and the University of Vic, among others, began in 2008 a pilot project called "Collection of information of interest for the health of school dinners in Osona". The project offered schools a free nutritional analysis of their meals to ensure a balanced and varied menu adapted to the pupils' characteristics. The review, with the results of the analysis and the proposed improvements, was posted to each school. After allowing a reasonable time for schools to make these improvements, the schools were visited in order to study the acceptance and viability of the changes. At the same time the sensory aspects and environmental features of the school's dining room were assessed. **Results:** The initial nutritional assessment of school meals was quite positive. However, there were suggested improvements such as adequate combinations of first and second dishes, variety in the offer, adaptation to the age and season, improvement of the description of the dishes, no repetition of the structure of menus, changes in cooking techniques..., for a better acceptance by users. 65.5% of the participating schools incorporated some changes. Referring to the sensory evaluation of the menus, in 70-100% of the centres studied, this evaluation was positive regarding taste, smell, texture, temperature and presentation. All schools have menus adapted for health issues (food allergies and

intolerances, gastrointestinal problems, cholesterol...) Schools considered that the study recommendations for improvement have been very useful, understandable and easy to be implemented. **Conclusions:** In the majority of the schools, there was a real interest in improving the school dining service, and in ensuring that healthy eating was enjoyable.

Keywords:

children, food habits, school meal, teenagers

Iran

EFFECT OF 500 kcal REDUCTION IN ESTIMATED ENERGY REQUIREMENT ON LEAN BODY MASS AND BODY FAT IN OVERWEIGHT AND OBESE PATIENTS

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Introduction: Overweight and obesity are serious issues that deserve a proper diet plan and lifestyle-change in order to lower body weight. However, this study looks at not just overall reduction in body weight following a reduction in energy intake, but how this loss is shared between lean body mass (LBM) and body fat. **Material and methods:** This study looked at the effect of a 500Kcal daily dietary restriction on LBM and body fat in overweight and obese patients. In two major teaching hospitals of Mashhad, Iran (Qaem and Emam Reza), 391 overweight or obese patients (92 male, 299 female) were entered in the study. The patients had a mean age of 33.8 years (± 16.1 SD). Weight, LBM and body fat were measured using body composition analysers. A diet with 500Kcal reduction from their daily dietary was prescribed. In the second month a subgroup of 79 were tested for two consecutive months. A group of 39 were follow-up for an additional month and a fourth time test for 18 people of the main group was undertaken for greater accuracy. Data was analysed with SPSS version 13 by repeated measure. **Results:** In the first group of 79 people, there was 2.8% decrease in total weight, (2.3% from body fat and 0.5% from LBM). In The second group of 39 people there was 4.7% weight loss (3.8% body fat and 0.9% LBM).($f=55.1a$, $p<0.01$). And the last group of 18 patients there was 6.7% total weight loss (4.8% body fat and 1.8% LBM, $f=55.1a$, $p<0.01$). **Conclusions:** The result reveals that LBM & body fat are the main factors showing the greatest change; body fat decreased more than LBM.

Keywords:

dietary intervention, FAT, LBM, weight loss

Belgium

OVERWEIGHT, EATING AND EXERCISING HABITS AMONG FLEMISH (BELGIAN) TRUCK DRIVERS AND RESULTS OF AN INTERVENTION PROGRAM

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Introduction: Overweight is a big problem among truck drivers. The correlation between overweight and obesity and obstructive sleep apnoea syndrome (O.S.A.S) has been well documented. **Method:** In this study (2004-2008), the prevalence of overweight, obesity and determinants (nutrition and exercise) was investigated in a cohort of

289 Flemish truck drivers. **Results:** The results of this study show that the mean BMI of the truckers was 28.1. Only 35 % of them were HEPA-active (Health Enhancing Physical Activity, based on the IPAQ-questionnaire). Truck drivers eat irregularly and find it a problem to eat healthily. Dietary records of 38 truck drivers showed that their mean energy intake was 11011 kJ (2632 kcal). They consumed too much meat, snacks, sauces and sweets and did not consume enough fruit, vegetables, milk (products) and water. 27 truckers with O.S.A.S. and/or a waist circumference > 94 cm underwent an intervention program that has been evaluated by changes in eating habits and exercise and loss of weight or waist circumference. **Conclusions:** After intervention, 43 % had diminished their calorie intake by more than 500 kcal a day and 71% succeeded in > 30 minutes of moderate exercise a day. 81% of the truckers lost weight during the intervention.

Keywords:

eating habits, exercising habits, intervention program, overweight, truck drivers

HOW WELL DO CAREGIVERS DETECT MALNUTRITION IN ELDERLY RESIDENTS?

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Introduction: Malnutrition is a common problem among institutionalised elderly people and is frequently overlooked. **Aim:** This explorative study focuses on the ability of qualified caregivers in a nursing home to detect malnutrition in elderly residents. **Subjects and methods:** Using the Dutch Mini Nutritional Assessment (MNA), a head nurse screened the nutritional status of 28 residents living in a nursing home (9 male, 19 female), aged 70-98 (mean 84.4, SD 6.8). Furthermore, 10 caregivers working at the nursing home were asked to classify each resident into one of the three categories of the MNA: (a) absence of malnutrition, (b) at risk of malnutrition, (c) malnourished yielding a total of 280 observations. Finally, provision of liquid supplementation was also registered. **Results:** From 28 residents, MNA screening classified 14.3% as malnourished (MNA<17 points) and a total of 75% as either malnourished or at risk of malnutrition. According to the opinions of the 10 caregivers, only 9 out of 280 observations (3.2%) were classified as malnourished and 74 (26.4%) as being at risk of malnutrition. Furthermore, of those elderly having a BMI <20 and MNA<17, only 5% of the observations were classified as malnutrition by the caregivers. Only 15% of those residents classified as malnourished or at risk of malnutrition received liquid supplementation. **Conclusions:** The recognition of malnutrition in elderly residents by their caregivers is poor. Since prevalence of malnutrition in the elderly (especially when institutionalised) is high and has adverse effects on health outcomes, nursing homes should always implement systematic screening for malnutrition into their policy. Continuing education regarding malnutrition in the elderly is recommended.

Keywords:

elderly, malnutrition, MNA

ASSESSMENT OF CONSUMER EXPOSURE TO NUTRITION INFORMATION ON FOOD LABELS: PENETRATION STUDY ACROSS THE EU-27 AND TURKEY

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Introduction: The EU-funded project FLABEL (Food Labelling to Advance Better Education for Life, www.flabel.org) aims to understand how nutrition information on food labels affects dietary choices and consumer habits. Fundamental to this is the assessment of consumer exposure to such information. **Objective:** The present study assessed the current penetration as well as the major formats of nutrition information on food labels in 5 product categories in EU countries and Turkey. **Methods:** In each of the 28 countries, three types of retailers were audited: 1) top 5 market share, 2) consumer cooperative/national retailer, and 3) discounter. Product categories examined were sweet biscuits, breakfast cereals, pre-packed ready meals, carbonated soft drinks and yoghurts. The audit included where nutrition information occurred on the pack (front-of-pack vs. elsewhere), its format (eg nutrition table), which nutrients were covered and whether nutrition or health claims were present. **Results:** More than 37,000 products were audited. The majority of products (on average 85%) contained nutrition information of some kind (> 95% in Ireland, UK and The Netherlands, < 75% in Cyprus and Slovenia). The most widespread format was the nutrition table on back of pack, stating either the Big 4 (calories, protein, carbohydrates, fat) or the Big 8 (Big 4 plus sugar, saturated fat, fibre and sodium/salt). The breakfast cereals category showed the highest penetration, displaying some kind of nutrition information on back of pack on 94% of products and front of pack on 70% of products. Nutrition claims and Guideline Daily Amounts (GDA) were the most prevalent front-of-pack forms of nutrition information with up to 37% and 63% penetration, respectively. **Conclusions:** Nutrition information was found on a large majority of products audited. These findings build the basis for subsequent studies on attention, reading, liking, understanding and use by consumers of different nutrition labelling formats.

Keywords:

consumer behaviour, FLABEL, food choice, labelling, nutrition information

Poland

INTAKES OF SELECTED ANTIOXIDANTS BY PATIENTS WITH FUNCTIONAL DYSPEPSIA WITH OR WITHOUT *HELICOBACTER PYLORI* INFECTION

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Introduction: *Helicobacter pylori* infection causes both acute and chronic inflammatory cell infiltration, leading to an increase in reactive oxygen species (ROS), which have been shown to accumulate in *H. pylori* gastritis. Plasma, intragastric and mucosal concentration of different antioxidant compounds, such as ascorbic acid (an important enhancer of iron absorption), is low in patients infected with *H. pylori*. Alfa-tocopherol and beta-carotene are affected by *H. pylori* gastritis. This study was supported by grant N312 014 31/1330 from PMSHE. **Method:** The present study investigated the intakes of selected antioxidants by patients with functional dyspepsia. 36 patients (30 women and 6 men) with diagnosed functional dyspepsia were included in the study. Rome III criteria were used for the diagnosis. Patients aged 25-64 years with mean age of 53 years were recruited from the Clinic of the Ministry of Internal Affairs and

Administration in Warsaw. The study protocol was approved by the Bioethical Committee at the Central Hospital Clinic of the Ministry of Internal Affairs and Administration in Warsaw. Breath test (13C enriched urea) was used to determine the presents of *H. pylori* with the aid of IRMS (isotope ratio mass spectrometry). 3-day food records were collected from patients and then analysed using computer software "Dieta 2" based on the Polish Food Composition Tables. **Results:** Only 6 patients were infected by *H. pylori*, which is 16.6% of the overall patients diagnosed with functional dyspepsia. Also only 6 patients declared that they used vitamin and mineral supplements. The intakes of zinc, vitamin C and E were inadequate and only 25% and 70% of patients met the recommended daily allowance for vitamin C and E, respectively. The consumption of beta-carotene was on average 15 mg/day. The intakes of antioxidants, except for beta-carotene were below RDA. **Conclusions:** It is recommended that patients with functional dyspepsia increase the consumption of foods rich in antioxidants.

Keywords:

antioxidants, dyspepsia, *Helicobacter pylori*

ESTIMATION OF THE NUTRITIONAL STATUS AND SELECTED NUTRIENT INTAKE OF PATIENTS WITH FUNCTIONAL DYSPESIA

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Introduction: Functional dyspepsia (FD) is a common chronic disorder with non-specific upper abdominal symptoms. Despite a clear link between clinical symptoms and food intake in most patients, there are no proven dietary recommendations that could reduce the symptoms. It is recommended to avoid high fat diet, large meals, coffee, alcohol and bloating food components. The study was supported by grant N312 014 31/1330 MSHE. **Method:** This study investigated the nutritional status and selected nutrient intake by patients with FD. The study was conducted in 36 patients (30 women, 6 men) aged 25-64 years with mean age of 53. Patients with chronic FD diagnosed based on Rome III criteria were recruited from the Central Hospital Clinic MSWiA in Warsaw. All patients gave their informed consent; the local Bioethical Committee approved the study protocol. Basic anthropometric measurements (weight, height) were conducted and nutritional status of patients was assigned based on BMI criteria (WHO, 2003). Nutrient intake was evaluated based on collected 3-day dietary records using Polish computer software Dieta 2. **Results:** More than 60% of examined patients had improper body weight, with 42% overweight and 20% obese. Only one person was at the risk of malnutrition (BMI=17.9). The nutrients intake analysis showed many irregularities such as: high consumption of fat (39% of energy) especially saturated fatty acids (13% of energy), inadequate level of calcium, iron, potassium and group B vitamins. The intake of calcium was very low (57% of RDA) and only 2 patients met their recommendations. The intake of iron and potassium fulfil the recommendations in 81% and 83% of patients, respectively. One patient met RDA for vitamin B1 and 22% of the group for vitamin B2. Nutrient intake of most patients did not meet dietary recommendations with reference to healthy or dyspeptic subjects. **Conclusions:** Regular support from a dietitian, leading to improved nutrition is strongly recommended to increase quality of life of FD patients.

Keywords:

diet, functional dyspepsia, nutrient intake

Turkey

HEALTHY EATING INDEX SCORES OF PRIMARY SCHOOL TEACHERS

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Object: This study has been planned in order to achieve the following targets: The healthy nutritional habits of teachers, who play an important role in nutritional habits of primary school children should be evaluated by using a Healthy Eating Index (HEI), and such situations causing a necessity of intervening in regard of the results should be determined. **Method:** The study was carried out on 31 male and 109 female primary school teachers who were appointed at four different schools within the province of Istanbul. Data were obtained from a questionnaire. The nutrition situations were evaluated accordingly to scale of maximum 100 points whereas the Specific Nutrition Guide for Turkey was taken as a reference. **Results:** The group's average age was 37.8 years (± 9.3), its average Body Mass Index (BMI) was 24.3 kg/m² (± 3.9) and its average waist circumference was 75 cm (± 12). According to HEI scores, a small group of only 4.3% had excellent healthy feeding habits (>81 points). 42.9% of the subjects had satisfactory feeding habits (61-80 points). The next group of 31.4% scored between 51-60 points, suggesting some room for improvement in their diet. The bottom group of 21.4% scored <50 points, indicating the necessity for a dramatic improvement in their eating habits. **Conclusions:** Primary school teachers do have positive nutrition knowledge in general, but experience some difficulties concerning healthy nutrition. Primary school teachers, who are in a position to contribute to the developments of positive nutritional habits in school age children, might benefit from receiving suggestions for more easier and practical use of knowledge.

Keywords:

diet quality, healthy eating index, nutrition education

ARRANGEMENT OF STANDARD RECIPES OF THE MEALS IN THE MENUS OF ANKARA PRIVATE GUVEN HOSPITAL IN ACCORDANCE WITH THE HAACCP SYSTEM

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Objective: This work has been planned and implemented to adjust food production processes in the Food & Beverage and Diet Services of Ankara Guven Hospital following the principles of ISO 22000 (Standard of Food Safety Management System) and improving existing service quality. **Method:** The work was carried out on the food and the food groups in the patient and personnel menus of Ankara Private Güven Hospital in 2007. The food produced in the hospital kitchen was classified according to the main food groups; standard recipes were generated and a sample each of the food in the groups prepared according the principles of HACCP in the scope of ISO 22000. Firstly, the personnel were trained 3 times (with intervals of 6 months). An effective supplier management system was constituted and the physical condition of the kitchen prepared in accordance with the system in optimum level. **Results:** With this

work, it was discovered that the hospital kitchen physical conditions were inefficient and they were improved in accordance with the system to an optimum level enabling the food production be in accordance with principles of HACCP in the scope of ISO 22000. It was observed that in the processes starting from purchase of the foods, the foods are protected from being hazardous, an effective stock control is formed, the food wastage is reduced and economic loss is decreased preventing inessential production. **Conclusions:** The establishment of an HACCP-based food safety management system in the food & beverage services of the hospital improved the efficiency of the system, service quality will develop and through establishing food safety, there will be almost no fault in production.

Keywords:

food safety, hospital catering, ISO 22000

Austria

NUTRITIONAL INTERVENTIONS FOR PREVENTING AND TREATING CHRONIC WOUNDS

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Objectives and research method: By means of literature research in different databases and journals, the paper explores the relationship between malnutrition and wound healing on the one hand, and the current data on nutrition therapy for chronic wounds on the other hand. Similarly and for the same purpose, literature and guidelines from various organisations are critically viewed. Based on the results of this theoretical examination, a design for nutritional therapy in Hospital Mariazell is designed in the practical part of this paper. **Results:** Malnutrition has a negative effect on wound healing and the formation of chronic wounds. Nutritional screening is important for patients in order to assess their nutritional status. In the literature, specific recommendations for energy, protein and fluid intake, and adequate supply of vitamins and minerals are given. Also, the intake of arginine and omega-3-fatty acids seems to have a positive effect on wound healing. **Discussion:** There are clear and specific recommendations for the intake of energy, protein and fluid, based on larger randomised studies. While various studies also clearly establish a positive link between wound healing and the intake of arginine and omega-3-fatty acids, the small size of experimental groups in those studies does currently not allow any specific recommendations for the maximum period of supplementation or for dosage.

Keywords:

arginin, pressure ulcer, wound healing

NUTRITION OF THE ELDERLY – FROM BENCH TO BEDSIDE. THE POSSIBLE FUTURE ROLE OF DIETITIANS IN THE CONTEXT OF INTERNATIONAL DEVELOPMENTS

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This paper deals with the issue of nutrition of the elderly in long-term care, and the prevalence and consequences of malnutrition in this field. In order to determine the current situation, a questionnaire survey in two Austrian provinces was conducted and epidemiological data was

collected. The central topic of the paper is the possible future role of dietitians in geriatric long-term care and their contribution to improving the quality of life of long-term nursing home residents. As malnutrition often causes an increased care burden, involving dietitians more strongly in the care of the elderly could also help to lower costs.

Keywords:

dietitians, geriatrics, long-term care, malnutrition

DIETITIANS AS CARE PROVIDERS IN EXTRAMURAL FIELDS, USING THE EXAMPLE OF DIABETES MELLITUS TYPE-2 COUNSELLING: A COMPARISON BETWEEN AUSTRIA, GERMANY AND SWITZERLAND

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Background: This paper examines the extramural counselling services of self-employed dietitians in Austria, Germany and Switzerland. It explores the treatment of diabetes mellitus type-2 patients and how they perceive the quality of dietitians' services. **Research method:** Literature research plus expert interviews with dietitians and patients. **Results:** In Austria and Germany, medical insurance does not generally cover the provision of counselling services by dietitians. However, in the case of diabetes mellitus type-2, Disease Management Programs allow patients to get free counselling by a dietitian also outside of intramural facilities in both countries. Compared to Austria and Germany, in Switzerland all counselling services of dietitians are covered partly by health insurance, with the patients contributing to the costs. The interviews show that patients in Austria do not feel adequately supported when making dietary decisions. They ask for a stronger differentiation between medical and dietary expertise. The dietitians interviewed in Austria categorized the support of patients with diabetes mellitus type-2 as bad. They urged for a development of a better communication-network between physicians and dietitians. One dietitian interviewed in Switzerland considers the treatment of patients with diabetes mellitus type-2 in her country as sufficient, which could correlate with the better funding system for consultation services by dietitians.

Keywords:

diabetes mellitus type-2, dietary counselling, disease management, extramural health services, health insurance

ENERGY INTAKE DURING A 5000KM NON-STOP BICYCLE RACE – A CASE STUDY

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Introduction: We looked at the eating and drinking habits of a racing cyclist over an ultra long distance race. The Race Across America (RAAM) is an annual transcontinental bicycle race from the west to the east coast of the USA and covers a distance of 5,000 km including 37,000 meters of difference in altitude. As it is a non-stop race, the participants themselves choose when and for how long they sleep. Enormous variations in temperature as well as an accident causing a broken collarbone were only some of the challenges during the 248 hours of the race. **Method:** We did exact research on the daily consumption of energy, the macronutrients and anthropometric data, and periodically took blood samples. His total daily intake of

energy was 9437kcal, 80% of it in liquid form. Only at the beginning of the race was the athlete willing to chew solid food. **Results:** The athlete's weight was stable during the 10 days. We could fulfil the recommendations of a minimum of 60g CHO/h during the whole race. We also did interviews with the athlete after the race in order to get to know his point of view concerning eating and drinking. For him eating is neither pleasure nor relief, but something he just has to do. He even sees it as a duty and would prefer not having anything to do with it. Only common sense makes him pick up the given cups and bottles without asking. He completely assigns his dietitian responsibility for nutrition and liquids.

Keywords:

energy turnover, sport nutrition, ultra endurance

Italy

THE ANDID SURVEY OF PROFESSIONAL PRACTICE (ASPP)

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Introduction: In the last five years, the Italian Association of Dietitians (ANDID) has developed some positions on the professional role of the dietitian. **Method:** ASPP was a survey aimed to evaluate the impact of these positions on the profession of ANDID members. A questionnaire was developed, validated and sent to the 963 ANDID members registered as of 31 Oct 2008. The questionnaire contained 50 questions in seven sections: personal data, education, general dietitian, clinical dietitian, public health dietitian, catering dietitian, and research and continuing education. **Results:** 557 (58%) of those approached sent back a valid questionnaire within the predefined time span (1 Nov 2008 to 31 Dec 2008). Respondents were mostly females (94%), were registered to ANDID from a median interquartile range (IQR) of 5 (12) years and were practising the profession of dietitian from a median (IQR) of 9 (18) years. Because of space constraints, we will report here only the data relative to the perceived impact of ANDID positions on the professional practice of its members. 90% of respondents claimed to know the ANDID positions and 78% agreed that these positions had influenced their professional practice. **Conclusions:** In a sample representing nearly 60% of ANDID members, ANDID positions were known and perceived to be important by the great majority of dietitians.

Keywords:

position paper, professional practice, survey

Czech Republic

STANDARDIZATION OF NUTRITION CARE IN SENIOR HOMES – EDUCATION PROGRAM

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Introduction: The problem of malnutrition is very serious in the elderly population. Malnutrition in the elderly negatively influences

their overall health status and correlates with poor prognosis. Various studies show 15-60 % of the institutionalised elderly suffer from malnutrition. **Aim:** Based on feedback from various Czech homes for the elderly, where the local staff were keen to Filiation the nutritional needs of their residents, Nutricia developed and tested an education program, the goal of which was to implement standardized nutrition care in homes for the elderly. **Method:** A group of specialists in the field of clinical nutrition proposed an education program to be undertaken by representatives from nine different homes for the elderly (always a project coordinator, facility CEO and a nutrition therapist). The program consisted of 6 modules: Nutrition Status Screening; Identification of Nutrition Needs; Catering and Nutrition Supplements; Meals Distribution and Monitoring its Effect; Writing The Nutrition Care Standard; Client Education in Nutrition. Every module went through 3 phases: education, implementation and evaluation. **Results:** Staff from 8 of the 9 homes for the elderly successfully completed the education program. Each of the homes thought that the program made a major contribution to both clients and their families as well as to staff members. Objective data collected shows significant improvement in the nutrition status of the elderly residents. **Conclusions:** The described education program can be applied to any home for the elderly in the Czech Republic.

Keywords:

education program, Senior Homes, Standardization of Nutrition Care

PROJECT 2008 - REGIONAL EDUCATION OF NON-MEDICAL STAFF IN THE FIELD OF SAFETY IN HEALTH CARE

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Aim: The Czech Association of Nurses had implemented in 2008 "The Project 2008". The Project 2008 was aimed at regional education of non-medical staff on the field of the safety of health care. The Project had four topics and Nutritional Care was one of them. The main intention was to raise the quality of health care provision through the education of non-medical staff. **Results:** During March - December 2008 there were 12 seminars of "The Project 2008" taking place in all districts of Czech Republic for audience of almost 500 non-medical staff. Lecturers presented each individual seminar, covering all four topics in 4 hours. **Conclusions:** Even after the project had ended, similar seminars were being asked for in other areas of Czech Republic, aimed at health care (2 seminars realised so far) as well as community care (3 seminars realised so far).

Keywords:

education of non-medical staff, nutritional care, safety of health care

France

DIETITIAN AT THE FARM

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Introduction: In March 2005, an association of farmers offering accommodations in guesthouses developed the idea "Forme en

Ferme" (staying fit on the farm). The idea was to encourage a healthy diet and outdoor activities for tourists. In 2007, "Forme en Ferme" created a partnership with a national association that has a network of dietitians throughout France. The objective of the partnership is to explain the basics of nutrition and help the farmers to prepare healthy menus and to be able to explain nutrition to the general public. The main aim of "Forme en Ferme" is to show guests that having a healthy and balanced diet and practicing outdoor activities is enjoyable. "Forme en Ferme" is authorised to use the PNNS logo (the National Program for Nutrition and Health in France). **Methodology:** The national network of dietitians participates in the following events: (a) a full day of training on the basics of nutrition is provided to all members, (b) an annual nutritional training day is organized to give a review of nutrition and provide updates to all members, and (c) a regional training day is proposed to focus on local issues (a hands-on event with cooking activities) where regional dietitians are available to respond to questions and offer suggestions to members. **Results:** An annual evaluation is carried out to confirm the following: (a) members have put into practice what they have learned about nutrition: they prepare balanced menus and create new recipes, and (b) members have the knowledge and the tools necessary to explain the basics of nutrition and propose healthy activities to their guests. **Conclusions:** "Forme en Ferme" is working to highlight the link between the region, products from the farm, a balanced diet and a healthy lifestyle. "Forme en Ferme" would like to expand the concept throughout France.

Keywords:

balanced menus, farmers, outdoor activities, training

WAY TO APPETITE

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This project is the result of an interdisciplinary collaboration of CLAN, established by various organizations of the gerontology network of Val d'Oise, France (REGIES-95). It has observed the work of 14 geriatric institutions for 3 years, working with cooks, hosts, nurse aides, psychiatric assistants, psychologists, activity coordinators, dietitians, physical therapists, geriatric physicians and directors. The poster, used as an educational tool, summarizes the work, taking into account the everyday conclusions of the participating staff and families. Simple behavioural techniques used at mealtimes allowed for better individual nutrition without compromising the residents or causing concern to the staff or family members. The poster contains 9 colourful sketches, illustrated and commented in a comic strip format, showing the various steps taken before, during and after meals. The content of the sketches focuses on the importance of a positive attitude, objective assessment and polite manners in the situations described in order to reach the ideal results.

Keywords:

Alzheimer's disease, feeding, good treatment