

institution and the placement educators and the importance of training for placement educators. **Results:** Mean age of subjects was 41.2 ( $\pm 12.9$ ) years. Mean BMI was 26.5( $\pm 4.6$ ) kg/m<sup>2</sup>. 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% ( $\pm 1.2$ ) 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 ( $\pm 1.4$ ). 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