

ever, FBG (Fasting Blood Glucose) was found to be a significant determinant factor to proteinuria in Korean obese population. Further larger plausible interventional studies toward the obese population without or with diabetes would be investigated in the near future.

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### Influence of diet rich in broccoli on blood antioxidative capacity obese women with ischemic heart disease

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**Introduction:** The role of low antioxidant capacity in pathogenesis of civilization diseases has been much discussed. The aim of this study was to investigate whether a diet rich in broccoli affects the antioxidant capacity of human blood.

**Methods:** A randomized study was conducted in a group of ten patients; mean aged 60 years (from 49 to 71 years) with mean of BMI 31.0 kg/m<sup>2</sup> ± 1–6.1 suffering from ischemic heart disease (IHD). The nutritional value of the daily diet (antioxidants vitamins, total fat, saturated and polyunsaturated fatty acids supply), was controlled during the whole intervention by 24 hour recall.

All subjects received broccoli (lyophilize, equivalent of 20 g fresh vegetable) per day (polyphenols: 89.8 ± 1–3.0; flavonoids: 22.8 ± 1–1.1 mg Tx/100 g fresh mass) for 6 weeks. Lipids profile (total cholesterol, HDL-cholesterol, LDL-cholesterol, triglycerides), plasma concentration of substances reacting with thiobarbituric acid (TBARS), Total Antioxidants Status (TAS) and erythrocyte glutathione S-transferase activity (GST) before and after dietetic intervention were estimated.

**Results:** The six weeks of broccoli administration resulted in significant TBARS decrease (from 3.03 to 1.98 μmol/L; *P* < 0.05), TAS increase (0.68–0.72 mmol/L; *P* < 0.05) and GST increase (from 1.59 to 2.74 U/g Hb; *P* < 0.05).

**Conclusion:** In conclusion the consumption of broccoli can significantly increase the plasma antioxidant capacity however additional studies need to address the complex issues of IHD risk factors (included antioxidant capacity of diets) on cardiovascular health outcomes using a prospective cohort study.

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### General and obesity nutritional knowledge in health and non-health higher students

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**Introduction:** Increase nutritional knowledge (NK) is an effective strategy to promote healthy eating practices, preventing and treating obesity. The nutrition education programs should be preceded by a NK evaluation (, allowing adapting the program to the target population. So, it is important to study the General and Obesity NK in Health (HS) and non-Health Higher Students (NHS).

**Methods:** Seven hundred and sixty one Portuguese higher students (40.9%HS; 59.1%NHS) completed the NKquestionnaire, developed by Parmenter e Wardle (1999), translated and validated (Cronbach's alpha = 0.914) to sample. Students were categorized into quartiles regarding NKQuestionnaire score and in two groups referring obesity NK (Group1: fat intake-obesity correlation; Group2: none). The HS and NHS NK Differences were analyzed by Qui-square.

**Results:** The HS have major NK mean score (62 ± 13) than NHS (50 ± 11). The NKQ quartiles were 1st 0–47points, 2nd 48–54points, 3rd 55–62points, 4th 63–110points. The most HS were categorized in 3rd (76 24.4%) and 4th (144 46.3%), the most NHS were categorized in 1st (155 34.4%) and 2nd (145 32.2%) and it

was statistically significant (Chi-Squared = 123.8, *P* ≤ 0.001). About the obesity NK, the mostly student (Group1:212,27.9%) didn't correlated fat intake-obesity; but, in percentage, more HS(106,34.1%) referred obesity as a health problem connected to fat intake than NHS(106,23.6%) and it was statistically significant(Chi-Squared = 10 142, *P* = 0.001).

**Conclusion:** HS have major general and obesity NK than NHS, reinforcing the adapting nutrition education programs to target population necessity. Improving NK to NHS should be done, before programs for both groups.

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### Medical nutrition therapy in obese patients with Hepatitis C

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**Introduction:** Eating adequate amounts of essential nutrients, coupled with energy intake in balance with energy expenditure, is essential to maintain health and to prevent or delay the development of obesity or malnutrition.

**Methods:** This study was designed to measure the impact of an educational program involving a diet therapy and physical exercises in patients with chronic hepatitis C. We selected 44 patients with obesity and chronic hepatitis C and they were included into an educational program. We evaluated body weight, blood pressure, liver enzymes, lipids, insulin resistance (Homeostasis model assessment HOMA-IR). The liver fibrosis was non-invasively assessed using the Forns index; a value <4.2 excludes liver fibrosis and a value >6.9 is a predictor for significant fibrosis. All patients completed at baseline, 6 and 12 month a food frequency questionnaire. Each recording was analyzed in an individual meeting and they received professional advice.

**Results:** The average age was 56.98 ± 9.34 years. An average weight loss of 3.56 ± 1.32 kg of the initial weight was recorded parallel with decreased in calories consumption (*P* < 0.05). Triglycerides decreased from 187.22 ± 48.3 to 165.82 ± 46.8 mg/dL (*P* < 0.05), cholesterol dropped from 245.64 ± 49.98 to 221.68 ± 44 71 mg/dL (*P* < 0.05), and HDL-cholesterol increased from 48.39 ± 10.21 to 49.99 ± 11.39 mg/dL (*P* < 0.05), after 12 months. HOMA-IR decreased from 8.42 ± 4.92 to 6.56 ± 6.81 (*P* < 0.05). Albumin level, aspartataminotransferase, alaninaminotransferase decreased but we did not find significant statistically differences. Forns index decreased at 12 months (*P* = 0.048).

**Conclusion:** The present study establishes the positive impact of an educational program on the management of obese patients with hepatitis C.

**Conflict of interest:** None.

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### Improvement of metabolic profile with a specific diet on metabolic syndrome patients

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**Introduction:** This study was designed to measure the impact of an educational program involving a diet therapy and physical exercises on metabolic syndrome patients.

**Methods:** A number of 108 patients – 39 male (36,11%) and 79 female (63,89%), with an average age 47,6 ± 8,6 years, obese