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Abstracts

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EDITORS ABSTRACT

Every four years, the Federation of the European Nutrition societies (FENS) organizes a scientific conference that brings together European and Pan-European experts to discuss most recent scientific developments in the food, diet and health arena. The 12th FENS conference took place in Berlin, October 20 to 23, 2015, under the hospice of the German Nutrition Society with the motto “Nutrition and Health during life cycle – science for the European consumer”. Sessions were dedicated to latest research and outcomes of studies on the impact of diet into body functions, on dietary intake and dietary status of the population and of specific groups as well on the role of diets in disease occurrence and prevention. Translational research addressed strategies and approaches to change dietary behavior and policy measures. Four plenary sessions framed the program with distinguished speakers covering health aspects in the life cycle but also the global dimension of food security.

The present supplement comprises the 950 submitted abstracts and additional 320 abstracts of invited and selected speakers. The abstracts are ordered according to the scientific sessions of the conference, and the industry sponsored satellite activities, and posters. Within the program up to eight scientific sessions were held in parallel with thematic areas of (1) Food and nutrient intake, dietary patterns, dietary guidelines, (2) Advances in dietary studies, methodology and design, (3) Metabolic diversity, (4) Nutrition, public health, chronic diseases, and (5) Food quality, food safety, sustainability, consumer, behavior and policy.

The supplement can be searched with pdf-tools by using keywords such as authors, topics, specific compounds, etc.

Keywords: Nutrition, Nutrition policy, FENS, German Nutrition Society

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149/1218. Exposure to toxic metals through food in some population groups in South East Serbia

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Introduction: Food is one of the main factors of survival on this planet. However, in some cases, food may pose a high health risk, if it contains dangerous contaminants from the environment.

Objectives: of this study was to determine exposure to toxic metals (lead and cadmium) in different population groups through food in South East Serbia.

Method / Design: Sampling of food were carried out on the territory of South East Serbia (960 samples) during last ten years (2005-2014.). Chemical analysis for the presence of lead and cadmium were performed by atomic absorption spectrophotometry on a Perkin Elmer AAnalyst 600 in an accredited laboratory of the Institute of Public Health Niš (ISO / IEC 17025: 2006). Examination of the meal was done by technique of double rations and composite technology.

Results: A small number of food samples (0.92%) due to faulty toxic metals, but in most of the samples metals were present in measurable concentrations. Dietary intake of Pb and Cd in children aged 1-9 years, who eat in kindergarten, does not exceed tolerable daily intake (0.056 mgPb/day and 0.005 mg Cd /day). Dietary intake of Pb in adult professional non-exposed people is 0.198 mg/day, which is below the tolerable daily intake. In fact, the largest share of the total Pb input have cereals and cereal products (28.2%), followed by vegetables (22.8%), fruits (15.7%) and milk products (13.9%), while other types of foods much less participate the total input. Imported food products have slightly higher content of Pb and Cd in relation to food of domestic origin.

Conclusions: Exposure to toxic metals in food is not high among professional unexposed populations in South East Serbia. However, nutritional intake is just one of the possible entry of these toxic substances. Other forms of exposure (air, water, general use) can also significantly contribute to the overall intake of these hazardous contaminants. Therefore, a permanent monitoring in order to timely and properly taken measures to protect the health of exposed populations in South East Serbia these contaminants.

Keywords: (maximum 5): exposure, daily intake, toxic metals, lead, cadmium

149/1234. Comparison of store-sales data to self-reported data for measuring population level dietary intake

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Introduction: Population-level food and nutrient intake data are valuable but their collection can be time-consuming and costly.

Objectives: We present an innovative, objective method to estimate population-level dietary intake using store-sales data, and compare to Australian Bureau of Statistics data (ABS-data).

Method / Design: Store-sales data on all foods and drinks purchased over 18-months were collected from 20 stores in 20 remote Indigenous Australian communities that represented the main source of food for >8000 individuals. Nutrient densities per megajoule and the proportions of energy from each food group were calculated and compared to ABS-data (24-hour recall from 2300 Indigenous Australians living in remote Australia). Sodium and iodine values in ABS-data were adjusted for discretionary salt as this was not estimated.

Results: There was a median of -8% (range -51% to 63%) difference between nutrient densities from store-sales and ABS-data. Estimates for 17/30 nutrients in store-sales data were within 15% of ABS-data. Store-sales data indicated considerably higher carbohydrate and sugar and lower protein intakes compared with ABS-data. Percentages of energy from sugar products/dishes and fats/oils were more than double, while energy from seafood, fruit, vegetables and meat/poultry were considerably lower, in store-sales than ABS-data. Minimal difference to ABS-data was attributable to wild-harvested foods.

Conclusions: Both methods of collecting dietary intake data have inherent strength and limitations. There was evidence of reporting bias (over-reporting healthier while under-reporting less healthy foods) in the self-reported ABS-data which likely explains some of the differences in nutrient densities. Store point-of-sale data offer an objective, cost-efficient and unobtrusive surrogate for dietary intake which places no burden on individuals. There is great potential for the development of a food and nutrition monitoring system based on store-sales data in contexts where the store is the primary food source and where communities are distanced from alternative food sources.

Keywords: (maximum 5): dietary intake measurement; population; monitoring

149/1250. Sardine by-products oil improves lipids and lipoproteins transport in obese rat

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Introduction: Sardine is a major source of fish oil presenting a high content of bioactive lipids (omega-3 polyunsaturated fatty acids