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Abstracts

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on behalf of the German Nutrition Society

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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 Paneuropean 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 distinquished 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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Objectives: In this study, the antiproliferative effect of the fatty acid components of Clerodendrum volubile an indigenous Nigerian spice as well as its antioxidant effect on U-87 MG (Human Neuronal Glioblastoma) cell lines was investigated.

Method / Design: Fatty acids extracted from C. volubile leaf oil were subjected to GCMS analysis. U-87 MG cells were cultured and treated with the fatty acids for 48 hrs, after which the antiproliferation effect was ascertained via MTT assay and cell viability analysis using BD FACS Calibur. Cell cycle was analyzed by flow cytometry on FACS Calibur. Western blotting was used in determining expression of proteins in the cell lines. Cell migration and invasion were analyzed using the migration and invasion transwell assay protocol. The treated cell lines were assessed for reduced glutathione (GSH) level, catalase, superoxide dismutase (SOD) and lipid peroxidation.

Results: The fatty acids significantly inhibited cell proliferation, arrested S phase, modulated expression of MMP – 9 and VEGF, attenuated oxidative stress, and suppressed migration and invasion in U-87 MG cell lines

Conclusions: The fatty acids significantly inhibited cell proliferation, arrested S phase, modulated expression of MMP – 9 and VEGF, attenuated oxidative stress, and suppressed migration and invasion in U-87 MG cell lines. These results indicate the therapeutic potential of the fatty acids components of the leaves of Clerodendrum volubile on human neuronal glioblastoma cells.

Keywords: (maximum 5): Spices; Unsaturated fatty acids; Cancer; Tumor migration; and Oxidative stress

149/1246. Changes of body composition during weight reduction program in obese women

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Introduction: Weight loss with preferential effect on the body fat, especially visceral fat, could have important clinical benefits.

Objectives: The objective of this study was to evaluate the effect of 8-week personalized Chrono Nutrition weight management program on body weight and body composition in obese women.

Method / Design: 157 obese women (aged 44,1 ± 12,7 years, BMI= 35,5 ± 5,3 kg/m2, % body fat= 43,4 ± 4,9 %) participated in the investigation. Participants were advised to have meals that contained on certain well tolerated foods at a proper day time. Anthropometric measurements and body composition by using a bio-impedance analyzer Inbody 720 were assessed at the baseline, and after 4 and 8 weeks. Friedman test was used to compare anthropometric measurements during follow up, and post hoc comparisons with a Wilcoxon signed-rank test was conducted with the applied Bonferroni correction method.

Results: Participants lost significant weight during the intervention (-5.1 kg at week 4 ($p<0.001$) and -3.5 kg at week 8 ($p<0.001$)). The mean visceral fat area, mean total fat mass, and mean percent body fat showed a trend of reduction during the whole period of the study and the difference between each measurement remained statistically significant ($p<0,001$). The mean skeletal muscle mass was reduced by around 0,7 kg at the 4 weeks of program; the difference was statistically significant ($p <0,001$). Afterwards, towards week 8 of the program, the mean value of the skeletal muscle mass showed no trend of further reduction.

Conclusions: Chrono nutrition could be an effective and appropriate weight management program.

Keywords: (maximum 5): chrono nutrition, weight loss, body composition, body fat, skeletal muscle mass

149/1251. Beneficial Effects of Teucrium polium on Hepatocellular Carcinoma in Animal Model

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Introduction: Hepatocellular carcinoma (HCC), is the sixth most common cancer and the third most frequent cause of cancer-related death. Nutrition has an important rule in cause, prevention and treatment of cancer, and many of herbs have long been used as an alternative remedy in various diseases including cancer.

Objectives: The present study investigated the capability of the decoction of Teucrium polium to protect liver cells against HCC in carcinogenesis-induced animal model.

Method / Design: 40 male rats, 8±1weeks old, with average weight 243.1±6.7g have been used. Hepatocarcinoma was induced in 30 of the rats by single intraperitoneal injection of 200mg/kg diethyl nitrosamine (DEN) and then followed by a cancer promotion period of 2 weeks on food, which was mixed with 2-acetylaminofluorene (0.02% AAF) as a promoter of hepatocarcinogenesis. After the cancer initiation period, the leftover rats were weighed again and divided randomly into two groups with no significant differences in their