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created included: a comic about adolescents' food consumption, a recipe book with healthy preparations, and a workbook for recording information, completing activities, and evaluating progress. Given the program's success, its reach was maximized with the design and implementation of a digital course that replicated the in-person educational sessions, validated and adjusted based on participant feedback.

Conclusions: Active participation and involvement of adolescent girls in the educational and social innovation process favored the sustainability and reach of the intervention.

Conflicts of Interest: none

Keywords: health education; entrepreneurship; adolescents; women; nutrition

S27.3

Transforming Food Consumption: Impact of an Educational Intervention on Adolescent Girls' Diets

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Introduction: Adequate nutrient intake and diet quality in adolescents are crucial for their development and the prevention of noncommunicable chronic diseases.

Objective: To compare nutrient intake and diet quality in a group of adolescent girls before and after an educational intervention.

Methods: A case-control study was conducted with 96 adolescents selected from a total of 1010 participants. The adolescents were divided into two groups: 48 participated in the intervention, and 48 did not; they were matched by age and community. Pre-test and post-test assessments were conducted to evaluate changes in knowledge and practices, and the 24-hour recall method (R24h) was used to assess the Global Diet Quality Score (GDQS) before and after the educational intervention named CERES School. Statistical tests such as the Wilcoxon signed-rank test, Mann-Whitney U test, paired and independent t-tests, and a multivariate linear regression model controlling for variables such as age, socioeconomic status, and physical activity were applied.

Results: The pre- and post-analysis revealed a significant acquisition of knowledge that favored decision-making in food purchase, selection, and preparation, increased daily water consumption, inclusion of nutrient-dense foods, reduction in the consumption of ultra-processed foods, and recognition of the nutritional value of fruits, vegetables, legumes, and dairy groups. A significant increase in the intake of energy, protein, fats, fiber, calcium, zinc, and various vitamins (A, B2, B3, B9, and C) was observed. Additionally, there was an increase in the consumption of fruits, vegetables, legumes, and fat-rich dairy products, and a decrease in the consumption of sweets and ice cream, improving

the average GDQS scores. The educational intervention improved the total GDQS by 33%, controlling socioeconomic status, body self-perception, and physical activity.

Conclusions: The CERES School educational intervention achieved significant changes in nutrient intake and healthy food consumption, as reflected in the improvement of the GDQS.

Conflicts of Interest: none

Keywords: health education; feeding behavior; diet; nutrients; adolescents

S28: Lipophenols and Fatty Acid Oxidation Compounds. Use, Application, and Perspectives in Nutricosmetics

S28.1

Neuroprostanes Derived from Radical Oxidation of DHA: Promising Oxylipins for Health

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Introduction: Isoprostanooids are cyclic oxygenated metabolites, commonly known as isoprostanes (IsoP) derived from non-enzymatic oxidation of n-6 and n-3 polyunsaturated fatty acids (NEO-PUFA) (Galano et al. 2018) such as arachidonic acid (AA, C20:4 n-6); adrenic acid (AdA, C22:4 n-6) and eicosapentaenoic acid (EPA, C20:5 n-3). α -linolenic acid (ALA, C18:3 n-3) produced phytoprostanes (PhytoP), and docosahexaenoic acid (DHA, C22:6 n-3) led to neuroprostanes (NeuroP) (Morrow et al. 1990; Jahn et al. 2008; Milne et al. 2017; Galano et al. 2017). Evidence has emerged for their use as biomarkers of oxidative stress and more recently as bioactive lipids acting at the molecular level as secondary messengers; the latter ones are mostly related to n-3 PUFAs. Collectively, the existence of these NEO-PUFAs are not limited to mammalian specimens, they are found as well in our food such as nuts, seeds, and cocoa, depending on the type of PUFA (Ahmed et al. 2020).

Objective: This lecture will focus on the total synthesis of neuroprostanes generated from lipid oxidation of DHA and precisely their role in cardiovascular and neurodegenerative diseases.

Results: *In vitro* and *in vivo* studies on mice, rats, and cellular levels led to biological activities of neuroprostanes in cardiomyocytes, hearts, microglia cells, prostate cancer cells, microphages, and human neuroblastoma cells.

Conclusions: It is well known that DHA are recognized as cardioprotectors and neuroprotectors. The oxygenated metabolites of DHA, neuroprostanes are more bioactive lipids in cardiovascular neurological diseases.

Conflict of interest: none

Key words: neuroprostanes; docosahexaenoic acid; lipid peroxidation; microglial cell; total synthesis