Welcome letter from the Organizing and Scientific Committee

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Dear colleagues and participants,

Welcome to this special supplement dedicated to compiling the abstracts of the communications and lectures of the FINUT 2020 Conference. The supplement accounts for 339 abstracts for oral and poster communications from 18 countries. It also comprises the abstracts of more than 80 selected guest speakers participating in the scientific symposia and special lectures.

The main objective of the FINUT Conference, which will be held every two years, is to create a space for exchange and discussion of ideas regarding the main challenges of Food and Nutrition in Iberoamerica, to provide solutions aimed at improving the health of the populations of the region, where all the stakeholders, both public and private, are present and can share their thoughts. In addition, the Conference seeks to open a place for contrasted science shared by the Iberoamerican region, a necessary space to open opportunities and to display the research work done in Food and Nutrition, especially that from Latin American countries.

The scientific program of the Conference includes 32 parallel symposia, 4 meetings with the experts and 10 special lectures. In this first edition the Conference focused on 4 topics:

- Challenges of nutrition and public health in Iberoamerica.
- Nutrition in the prevention and treatment of chronic diseases.
- Safe, healthy, and sustainable foods.
- Challenges for an effective and efficient public-private partnership in food and nutrition.

The Conference is organized by the Iberoamerican Nutrition Foundation (FINUT), a nonprofit organization founded in 2011 by the International Union of Nutritional Sciences (IUNS), the Latin American Society of Nutrition (SLAN), and the Spanish Nutrition Society (SEÑ) to promote knowledge, research, development and innovation of Nutrition and Food in Iberoamerica. The FINUT programs are aimed at training professionals and researchers interested in these areas and building partnerships with governments, universities, research centers and other organizations.

Although we are living moments full of uncertainty, the FINUT 2020 virtual Conference organizers would like to thank all our speakers, attendees, and collaborators for their effort to share the scientific advances in the fields of nutrition and food sciences. The organization acknowledges and congratulates all the FINUT 2020 participants and members of the committees for their ability to adapt to new communication needs and hope that in the next edition of the Conference we can give you all the very personal thanks for moving forward

and for continuing the valuable work of providing the world with true and scientifically verified research, so essential in these times.

¡We are looking forward to seeing you at the FINUT 2022 Conference!

Very truly yours,

Prof. Luis Moreno
President of the Organizing Committee

Prof. Benjamín Caballero
President of the Scientific Committee

Prof. Angel Gil
President of the Ibero-American Nutrition Foundation (FINUT)

Dr. María José Soto-Méndez
Executive Secretariat of the Conference

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groups, eating occasions and types of dishes consumed by different age groups of participants from the ANIBES study.

Methods: A total of 2009 individuals, aged 9–75 years from the ANIBES cross-sectional Study using a nationally-representative sample from the Spanish population were studied. A three-day dietary record, collected by a tablet device, was used to record by taking photos of all foods and beverages consumed, both at home and outside. Pictures had to be taken before and after finishing the meals. Additionally, a brief description of the meals, recipes, brands, etc. was also recorded.

Results: The main meals contributing to plate leftovers across all age groups were lunch (40%), dinner (27%), breakfast (11%), afternoon snack (8%) and mid-morning and other occasions (7% respectively). The highest amounts when assessing the food groups or types of dishes corresponded to bread and derivatives (25%) main courses (16%), first and second courses (15% respectively) and starters (8%). The main sources that contributed to food leftovers were vegetables and fruits (12%), ready-to-eat meals (10%), cereals and grains (10%), oils and fats (10%), pulses (10%) followed by meat products (8%) and sauces and condiments (8%).

Conclusions: Our results reinforce the need for new strategies to focus on reducing plate leftovers, and this is crucial from both a nutritional, economic and environmental point of view, but also to rely on more accurate information on the actual intake when using dietary surveys.

Conflict of Interest: We have no competing interests.

Keywords: Food waste, Leftovers, Food losses; ANIBES Study

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THE FOOD PROGRAMME: A EUROPEAN BEST PRECTICE IN HEALTHY PROMOTION DURING THE WORKING DAY

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Challenges for an effective and efficient public-private partnership in food and nutrition

Background and aim: Obesity was still responsible for 1 in 5 deaths in different parts of Europe in 2018 and the WHO defines unhealthy diets as one of the four main behavioural risk factors to focus on worldwide. Since people spend a major part of their waking hours at work, it is a designated place to act. Indeed, a balanced diet positively influences employees' health, well-being and productivity in the long run.

Hence, the core objective of the FOOD programme that promotes healthy eating habits during the working day towards two complementary target groups: workers and commercial restaurants, making "the healthy choice the easy choice".

Methods: The FOOD programme is a public private partnership gathering Public Health Authorities, Nutritionists and Universities around the coordinator Edenred in 10 countries (AT, BE, CZ, FR, ES, IT, PT, RO, SK). It started thanks to EU funding in 2009.

The Consortium followed a five-step methodology enabling a qualitative and adapted set of actions. It developed tools and messages adapted to cultural and professional constraints in each country.

As part of the evaluation, barometers are being conducted every year towards employees and restaurants in order to collect their eating habits and perception. Since 2012, 130,000 workers and 9,500 restaurants answered the questionnaire. Results confirm a change of perception as well as a change of decision making when it comes to the choice of place where to have lunch or to the meal they will choose.

Results: Since 2009, 400 communication tools have reached 6.9 million employees and 521,000 restaurants.

In 2019, the FOOD programme received a Best practice certificate by the European Commission and an Award from the UN Task Force, recognizing the programme's contribution to achieving NCD-related Sustainable Development Goals.

Conclusions: The FOOD programme is a unique example of EU funded project that could continue as a long-term programme. Thanks to the partners' knowledge sharing, it could be implemented in Latin-America with the right partners and adapted communication campaigns.

Keywords: Nutrition/ prevention/ communication

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SCHOOL ENVIRONMENT, OBESOGENIC FACTORS FROM THE PERSPECTIVE OF THE EDUCATIONAL COMMUNITY AT A SCHOOL IN MEDELLÍN, COLOMBIA.

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Nutrition in the prevention and treatment of chronic diseases

Background: The World Health Organization -WHO- considers obesity among the first causes of death, for conditioning the development of Chronic Noncommunicable Diseases -CNCD-, which in 2016 caused 72% of deaths worldwide. By 2016, the WHO and the World Bank report that the prevalence of excess weight in children exceeds 30% of the population. Early occurrences of these diseases can be preventable from childhood, as they are related to people's lifestyle and exposure to obesogenic environments characterized by food availability and conditions for physical activity, not conducive to health. Children in obesogenic environments will have rapid weight gains and increased risk of obesity in adult life, of up to 50% (Muñoz & Arango, 2017).

Objective: To identify the obesogenic factors from the perspective of the educational community, seeking solutions in the prevention of obesity, all the while taking into account the school environment.

Methods: Qualitative research and hermeneutical paradigm; eight focus groups (4 to school children and 4 to teachers) were studied. The analysis was based on fundamental theory.

Results: The obesogenic factors identified by the educational community are located at the individual and institutional levels. The first level refers to eating habits, purchasing power, and emotional aspects, which influence the choice and consumption of inappropriate food - both in quantity and quality, by schoolchildren. The second one is the institutional conditions, such as the locative infrastructure, the quality of the food supply, and other issues involving the teachers themselves and the teaching activities and processes, which condition both food intake and physical activity.

Conclusions: Identifying the favorable aspects of excess weight in the school environment, based on its microenvironments; provides sufficient and necessary supplies and materials for the construction of a comprehensive educational proposal, taking into account the individual and environmental conditions of the subjects, their practices, knowledge, meanings, and beliefs; aimed at going beyond the transmission of mere knowledge through significant interventions - relevant and consistent with their possibilities-, and actions that transform these environments.

Keywords: school/excess/ weight/ environment.

Conflicts of interest: none

This work is part of the Colon Cancer Prevention (ECNT) project. Educational perspective against obesity, in food, nutrition, and physical activity, in schoolchildren in Antioquia and Quindío, within the Scientific Academic Alliance for the strengthening of IES, focused on nanobioengineering for the prevention, diagnosis, and treatment of Colon-cancerNanobiocancer. Scientific Colombia 2017.

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IS THERE AN EPIGENETIC SIGNATURE ASSOCIATED WITH ADIPOSITY? LONGITUDINAL RESULTS IN RELATION TO TWO WEIGHT LOSS STRATEGIES

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Nutrition in the prevention and treatment of chronic diseases

Introduction: Studies have shown that weight loss through interventions such as exercise, low calorie diet and bariatric surgery can modulate the dynamics and reverse methylation levels in different human tissues, providing the search for target markers to treat obesity-related comorbidities.

Objectives: This study aimed to evaluate whether different treatments for obesity are able to modify epigenetic signature related to adiposity.

Methods: 35 obese women were assessed before and after 6-week of hypocaloric dietary intervention (n=11, age: 36.9±10.3 years; BMI: 58.5±10.5kg/m2) or before and after 6-months of gastric bypass (n=24, age: 36.9±10.2 years; BMI: 43.3±5.7kg/m2). These participants were compared with sex- and age-matched normal-weight women (BMI: 22.5±1.6kg/m2). Anthropometric and body composition evaluation were performed in each time. Genome-wide DNA methylation analysis was performed in DNA extracted from peripheral blood leukocytes using Infinium Human Methylation 450 BeadChip assay. Changes (Δβ) in methylation level of each CpGs were calculated. A threshold for the significant CpG sites based on Δβ with a minimum value of 10%, $p<0.001$ and $q<0.05$ was applied.

Results: Significant reduction in body weight and fat mass was observed after both interventions. As first results, linear regression analyzes showed that 4,631 CpGs were associated with BMI, 3,437 CpGs abdominal circumference and 10,587 CpGs body fat, totaling 11,111 CpGs associated with obesity/adiposity. Before and after interventions, methylation profile from obese women was compared with normal-weight women. Its showed that methylation level of 82 CpGs associated with adiposity were different between obese and normal-weight women, even after bariatric surgery. In the same way, 249 CpGs associated with adiposity were different between obese and normal-weight women, even after hypocaloric dietary intervention. Those CpGs were in genes related to Wnt, cadherin and PI3 kinase signaling pathways. These pathways are involved with adipocytes differentiation, lipid metabolism and insulin resistance, which characterize the main comorbidities related to obesity. These data suggest that there is a group of genes associated with adiposity that are epigenetically different among individuals with different BMIs, even after weight-loss strategies.

Conclusions: DNA methylation analysis of the entire genome has revealed that there is a cluster of genes associated with adiposity having different methylation levels between individuals with obesity and normal-weight even after dietary intervention or bariatric surgery, indicating the existence of an epigenetic signature associated with obesity that even with significant weight loss is not modified.

Conflict of Interest: None to declare.

Keywords: epigenetic / DNA methylation / obesity / adiposity / BMI

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