

## 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

## Organizer

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# FINUT

## Fundación Iberoamericana de Nutrición

## Collaborators

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Celebrating 30 years of probiotic science



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### S36.1

#### MODELO ECOSOCIAL PARA EL ABORDAJE DEL ESTUDIO DE LOS AMBIENTES ESCOLARES

*M. González-Unzaga.*

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Challenges of nutrition and public health in Ibero-America

Efforts by health systems have been insufficient to contain the obesity epidemic in the world. Among the reasons identified as the cause of the low effectiveness of intervention actions in the field of nutritional health promotion, the following stand out: that the actions do not have a theoretical basis, are detached from the reality of the target population, and that these actions have as final objective the individual. In this framework, both the situational diagnosis of the context in which obesity develops, and the design of interventions, requires a theoretical basis and a conceptual framework that allows understanding the processes underlying this phenomenon. In this sense, the Ecosocial Theory is one of the alternatives to visualize the phenomenon of obesity as a biological result of social processes. The problem of the quality of school environments, as a subject of study, is very complex due to the large number of actors involved in its definition and the diversity of levels of organization in which they are immersed. This theory is ideal for the study of school environments given the need to know the ecological dimensions of social-environmental influences. Moreover, this theory gives us elements to generate interventions with high feasibility for its development and with a high probability of having an impact on the variables and processes that define school environments.

**Conflict of Interest:** I declare no conflict of interest.

**Keywords:** Eco-social theory / School environments / Obesity / School-Children

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### S36.2

#### THE IMPROVEMENT OF SCHOOL ENVIRONMENTS, FROM CONTROLLED TESTS TO PUBLIC POLICIES

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Institute of Nutrition and Food Technology. (INTA). University of Chile.

Challenges of nutrition and public health in Ibero-America

The World Health Organization (WHO), in response to the increase in childhood obesity and the consequences that it brings to the health of children and adolescents, has proposed measures and recommendations to counteract obesogenic environments, with the school being one of the environments more important to generate healthier lifestyles.

The interventions that have been carried out in educational establishments have consisted of incorporating nutritional food education into the classroom, increasing the

availability of fruits and vegetables; generate policies that establish limits for the critical nutrients of food, provide economic incentives in the choice of food within schools and perform quality recreational sports activities.

Despite the apparent advantages of addressing obesity in schools, the lack of evidence on the effectiveness of the interventions carried out could question the desirability of allocating resources to these programs, so new studies that contribute more clearly are needed. Information on these aspects.

In Chile, the effectiveness of a comprehensive intervention in food and physical activity was evaluated, aimed at controlling the increase in obesity in children from 6 to 10 years of age, of low and low middle socioeconomic status, who attended public schools in Chile, concluding that interventions that integrate nutritional food education, healthy kiosk and quality physical activity, are more effective in reducing the ZIMC. improve physical fitness and control the increase in childhood obesity than those that address these variables in isolation.

The results of this study will guide other researchers on issues related to interventions in schools to control childhood obesity, and will serve as evidence for the generation of public policies in this area.

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### S36.3

#### FOOD EDUCATION FOR NUTRITIONAL HEALTH. SCHOOL ENVIRONMENT, MEDIA, AND MEDIATIONS

*T. Alzate-Yepes.*

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Challenges of nutrition and public health in Ibero-America

The school age, being the one with the highest brain uptake for learning, is the privileged one for formal education and life education, such as the formation of habits, attitudes, and knowledge, which, over time, once incorporated, constitute a lifestyle, that largely determines the quality of life, which involves the conditions and health status of individuals at later stages.

Along with home or family, school is considered the most important environment for the formation of a schoolchild, and in it, not only the thematic knowledge transmitted from the academic programs by areas of knowledge similar to geography, social or mathematics is important, but how they are treated in and out of the classroom, that is, the means with which they are intentionally addressed in class, and how they are presented by each teacher, such as those that in a natural way flow as messages from the social environment, through interaction with other people, with advertising, with social dynamics, with spaces or events, that facilitate the student relating to previous experiences and knowledge to reach conclusions and make decisions for their own life and immediate environment.

The educator for nutritional health must be fully aware of the scope of his actions and must guide them wisely. The difference between information, communication and

education is based on the scope, intentionality, objectives, and strategies used; therefore, to discern about the school environment and its influences, to use the available or required means in a relevant and appropriate manner, as well as the role of significant adults as mediators and other individuals, is their challenge.

**Conflict of interest:** none

**Keywords:** Nutrition Education / school environment / educational media / pedagogical mediations.

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### S36.4

#### **PERSPECTIVES AND DIAGNOSIS OF AN OBSERVATORY FOR NUTRITIONAL HEALTH IN SCHOOLS FROM LATIN AMERICA**

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Challenges of nutrition and public health in Ibero-America

The school environment is relevant in childhood health and development. The school's food environment has been identified in the causal link of childhood obesity and it has been recognized some practices and actors are involved in this environment negatively influence the environment and could contradict of tendering set rules aimed to for achieve healthy eating environments. Therefore, it is necessary to study and address the causes that generate the high availability of unhealthy foods and the low-level supervision of food environments. Faced with these challenges, virtual and real-time surveillance systems, such as observatories, can be useful tools that contribute to the description and detection of problems and needs of school environments, as well as the monitoring and progress of the quality of environments food and, in turn, build research and information exchange space between specialists and decision makers in the area of nutritional health. The construction of a virtual observatory for nutritional health in schools aims to integrate surveillance of school food environments through an international collaborative work platform that collects and integrates information on the status of the quality of school food environments and contributes to compliance with regulations. In addition, to provide conceptual and methodological consensus to broadcast intervention models and propose public policies for the improving the school environment from Latin American countries.

**Conflict of Interest:** without any conflict of interest.

**Keywords:** food environment, school health, nutritional health, observatory.

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### S37.1

#### **SARCOPENIA: DEVELOPMENT AND NUTRITIONAL TREATMENT**

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Nutrition in the prevention and treatment of chronic diseases

Sarcopenia is a multifactorial disorder that appears in geriatric age. Characterized by a progressive and widespread loss of skeletal muscle mass and strength with the risk of producing negative effects such as physical disability, deterioration quality of life, loss of autonomy and greater morbidity and mortality. At 75 years old, 50-55% of men and 45% of women present it. Although the epidemiological variability is mainly due to the method and cut-off points used for diagnosis, it affects women more than men.

Suboptimal protein consumption is common in the elderly, the recommendation of 0.8 g / kg is insufficient, it has been observed that ingestion of 1.2 g / kg weight / day decreases muscle mass loss by 40%. The protein source is important, protein animals have a higher content of Leucine and have a rapid absorption kinetics, being more effective in stimulating muscle deposition. A recent meta-analysis confirmed that leucine can increase muscle protein synthesis in the elderly and that its consumption is directly related to muscle mass retention. One of its metabolites,  $\beta$ -hydroxy  $\beta$ -methylbutyrate (HMB), has been proven effective in improving muscle mass and strength in older adults, even immobilized. There is a decrease in their age-related concentrations, so supplementation with HMB in older sarcopenic individuals is justified.

Vitamin D supplementation in subjects with sarcopenia can have positive effects on muscle performance and strength, improve the composition and morphology of muscle fiber.

Probiotics and prebiotics have been proposed as a treatment for sarcopenia but the evidence is based primarily on animal experimentation studies.

**Conflict of Interest:** The author declare no conflict of interest.

**Keywords:** Sarcopenia / nutrition/ older people.

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### S37.2

#### **DIFFICULTIES IN DIAGNOSTIC AND ESTIMATION OF THE SARCOPENIA PREVALENCE: USEFUL METHODS**

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Nutrition in the prevention and treatment of chronic diseases

Although it is know that a large proportion of elderly people are sarcopenic, there are large differences in the estimated prevalence in different studies. Regardless the different diagnostic techniques, the cut-off points and the criteria have changed in recent years. When muscle strength is considered as an indicator of sarcopenia, handgrip strength is used for its determination. However, different techniques and indexes have been used to assess muscle mass, so it is difficult to compare different studies. The problem is compounded by differences in the cut-off points applied in the studies for both strength and muscle mass. Keep in mind that