

PRESS RELEASE

Madrid, 23rd November 2017

The scientific journal *Nutrients* publishes a new research within the ANIBES Study

A new ANIBES Study analyzes reported dietary intake and food sources of zinc, selenium, and vitamins A, E and C in the Spanish population

- **83 % and 80 % of the population does not meet the European recommended intakes for zinc and vitamin E respectively**
- **The percentage of the population that does not meet the European recommended intakes for vitamin A and vitamin C is 60 % and 56 % respectively**
- **Only 25 % of the population reported selenium intakes below 80 % of the European recommended daily intakes**
- **The main food sources for zinc were meat and meat products; for selenium were cereals and grains; for vitamin E oils and fat; and for vitamins A and C vegetables.**

The scientific journal [Nutrients](#) recently published the study 'Reported Dietary Intake and Food Sources of Zinc, Selenium, and Vitamins A, E and C in the Spanish Population: Findings from the [ANIBES Study](#)', a new scientific research aimed at identifying the daily intake of zinc, selenium, and vitamins A (retinol and carotenes), E and C, which have in common biological functions involved in the antioxidant defence system and important implications for the prevention of inflammatory chronic diseases and in particular of cardiovascular illnesses.

Adequate nutrition is one of the pillars of public health and, this study, coordinated by the [Spanish Nutrition Foundation](#) (FEN in Spanish), aims at contributing to the knowledge on the population's nutritional situation, before designing national guidelines, which is essential to improve the nutrition of the population.

According to the main researcher of the study, **Prof. Ángel Gil, PhD**, Chairman of the Iberoamerican Nutrition Foundation (FINUT), Director of the BioNit Scientific Group and Professor of Biochemistry and Molecular Biology at the University of Granada, "this new scientific work shows that a significant percentage of the Spanish ANIBES population does not meet the recommended intakes for zinc, vitamin A and vitamin E; a reasonable

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percentage of people does not meet the recommendations of vitamin C; and a low percentage of people does not meet the selenium recommendations”.

More specifically, “in the whole studied group, 92 % and 83 % respectively for zinc, 74 % and 60 % respectively for vitamin A, and 80 % and 80 % respectively for vitamin E, of the population had reported intakes below 80 % of the Spanish and European recommended daily intakes, explains Professor Gil.

Additionally, dietary sources of these micronutrients have been assessed. In this regard, the Professor states that “the main food source intakes for zinc were meat and meat products; for selenium were cereals and grains; for vitamin E oils and fat; and for vitamins A and C vegetables”.

By age and sex

Regarding age groups, Professor Ángel Gil explains that “lower reported intake of zinc, selenium and vitamin E were observed in the elderly group (65-75 years) opposite to the reported intakes of carotenes and vitamin C which increased with age”.

Furthermore, sex differences were observed, “intakes of zinc, selenium, vitamin A and vitamin E were higher in men than in women in the whole population”, whereas “the reported intake of carotenes and vitamin C was lower in men than in women in the total sample”, continues the Professor.

Zinc

“83 % of the population does not meet the European recommendations for zinc”, being “meat and meat products (28.5 %), cereals and grains (25.5 %), and milk and dairy products (15.8 %) the main sources. Other food sources of zinc were fish (5.7 %), vegetables (5.2 %), and ready-to-eat meals (4.8 %”, explains Professor Gil.

Regarding different age groups, the Professor adds that “milk and dairy products provided higher percentages of zinc to the children; whereas fish and vegetables afforded a higher percentage to the older groups; and ready-to-eat meals did so for the younger groups”.

Selenium

“The reported intake of selenium met almost the totality of the Spanish as well as the European recommendations. Only 15 % and 25 % of the population had reported intakes below 80 % of the Spanish and European recommended daily intakes respectively”, explains the study leader.

Regarding sources, he details that “the largest source of selenium for the whole population was the group of cereals and grains (46.5 %), with a higher contribution for the adolescents (50.8 %). Fish meant 16.7 %, meat and meat products 14.9 %, and milk and dairy products 7.2 % of the total selenium daily intake”.

Vitamin A

“The reported intakes of vitamin A in the present study were lower than the Spanish and European recommendations. More specifically, there is 60 % of the studied ANIBES population not meeting the European recommendations”, comments the Professor.

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"Vegetables were the main source of vitamin A for the whole population (31.3 %), contributing in higher proportions in the older groups. Milk and dairy products provided 21.7 %, contributing more to the younger groups. Eggs ranked third (11 %) and fruits fourth (6.9 %)", adds Professor Gil.

Vitamin C

With respect to vitamin C intake, he explains that "29 % and 56 % of the whole adult population did not meet the Spanish and European recommendations, respectively".

Regarding sources, he states that "vegetables (50.6 %) and fruits (20 %) contributed to more than 70 % to the intake of vitamin C. Milk and dairy products and non-alcoholic beverages ranked third and four, contributing in 8.9 % and 8.7 %, respectively".

Vitamin E

"The data from the ANIBES Study indicates that 80 % of the whole adult population have inadequate intake of vitamin E", continues the Professor. Regarding sources, he adds that "the group of food and beverages composed of oils and fats were the main contributors (45.7 %) to the vitamin E intake, followed by vegetables (11.4 %), fish (9.7 %), and fruits (4.8 %). These three last food groups increased with age".

Olza J, Aranceta-Bartrina J, González-Gross M, Ortega RM, Serra-Majem LI, Varela-Moreiras G, Gil A. Reported Dietary Intake and Food Sources of Zinc, Selenium, and Vitamins A, E and C in the Spanish Population: Findings from the ANIBES Study. *Nutrients*, 2017;9(7):697; doi:10.3390/nu9070697.

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Scientific Committee

- **Prof. Javier Aranceta-Bartrina MD, PhD**, Chairman of the Scientific Committee of the Spanish Society of Community Nutrition (SENC), Clinical Director of the Spanish Foundation for Nutritional Research (FIN) and Professor of Community Nutrition at the University of Navarra
- **Prof. Ángel Gil, PhD**, Chairman of the Iberoamerican Nutrition Foundation (FINUT), Director of the BioNit Scientific Group and Professor of Biochemistry and Molecular Biology at the University of Granada
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- **Prof. Rosa M^a Ortega, PhD**, Director of the VALORNUT Research Group and Professor of Nutrition at the Complutense University of Madrid
- **Prof. Lluís Serra-Majem, MD, PhD**, Chairman of the Spanish Foundation for Nutritional Research (FIN), Chairman of the Spanish Nutrition and Food Sciences Academy (AEN), and Professor of Preventive Medicine and Public Health at the University of Las Palmas de Gran Canaria
- **Prof. Gregorio Varela-Moreiras, PhD**, Chairman of the Spanish Nutrition Foundation (FEN), Director of the Nutrition and Food Sciences Research Group (CEUNUT) and Professor of Nutrition and Bromatology at CEU San Pablo University of Madrid

Technical specifications of the ANIBES Study

Design: Representative sample of the resident population in Spain (excluding Ceuta and Melilla)

Total sample: Individuals aged between 9 and 75 years old who live in municipalities with more than 2,000 inhabitants

Sample for this study: Individuals aged between 18 and 64 years old (n = 1,617)

Universe: 37 million inhabitants

Final sample: 2,009 individuals (2.23 % error and 95 % margin of confidence)

Random sample plus boost: 2,285 participants*

*Boost in the sample size was considered in order to obtain a correct representation

The final protocol of the ANIBES scientific study was previously approved by the Clinical Ethics Committee of the Autonomous Region of Madrid (Spain).

For more information:
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