

PRESS RELEASE

Madrid, 10th April 2018

New research work within the ANIBES scientific study published in the international journal *PLOS ONE*

The ANIBES scientific study analyzes the dietary sources and intakes of folates and vitamin B₁₂ in the Spanish population

- 3 % of women and 6.6 % of men met the recommended intakes for folates. Main food groups with the highest mean proportional contribution to total folate intakes were vegetables and cereals and grains
- Vitamin B₁₂ adequacy in total female and male population accounted for 93.4 % and 96.6 %, respectively. Meat and meat products, milk and dairy products and fish and shellfish were the main sources of vitamin B₁₂

The scientific journal [PLOS ONE](#) recently published the study 'Dietary sources and intakes of folates and vitamin B₁₂ in the Spanish population: Findings from the [ANIBES study](#)'. The aims of this new scientific work, coordinated by the [Spanish Nutrition Foundation](#) (FEN in Spanish), were to examine the contribution of different food groups and subgroups and to acknowledge the dietary intakes of folates and vitamin B₁₂ in the Spanish population according to age and gender.

Such as states the principal researcher of this work, **Prof. Dr. 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, "the proportion of adequacy for folates in total women of the ANIBES scientific population was 3.0 % and 6.6 % for men". Moreover, "vitamin B₁₂ adequacy in total female and male population accounted for 93.4 % and 96.6 %, respectively".

Main food sources of folates and vitamin B₁₂

"Food groups with the highest mean proportional contribution to total folate intakes in both males and females were vegetables (21.7 % and 24.9 % respectively) and cereals and grains (10.7 % and 11.2 % respectively)" explains Prof. Varela-Moreiras.

According to age group, Prof. Varela-Moreiras adds that "for adults and elderly, vegetables, cereals and grains and milk and dairy products supplied the largest

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percentage of folates intakes: 26.3 %, 16.3 % and 10.6 %, respectively". However, he continues, "in children and adolescents, cereals and grains, vegetables and milk and dairy products supplied 25.7 %, 15.5 % and 13.1 % of folate intakes, respectively".

In case of vitamin B₁₂, "meat and meat products (27.9 %), milk and dairy products (25.3 %) and fish and shellfish (19.4 %) were the main sources of vitamin B₁₂ for men while in the case of females, milk and dairy products (29.2 %) were the greatest contributors, followed by meat and meat products (24.8 %) and fish and shellfish (22.6 %)" spells out Prof. Dr. Varela-Moreiras.

Regarding age group, he continues, "for children and adolescents, both males and females, milk and dairy products were the highest contributors (30.7 % and 33.4 % respectively) followed by meat and meat products (27.1 % and 29.4 % respectively). On the other hand, "male adults consumed higher proportions of meat and meat products than females (28.0 % vs. 25.0 %)".

Differences regarding geographical distribution

Concerning to geographical distribution, the research work shows that "overall North Central, Barcelona (metropolitan area) and Northeast regions presented higher folate intakes: 180.1 µg/d, 179.9 µg/d and 162.7 µg/d, respectively, while the lowest folate intakes were observed in southern Spain", explains Prof. Varela-Moreiras.

"With respect to vitamin B₁₂, higher intakes were also reported in the North Central region (4.9 µg/d). In this region, significantly higher vitamin B₁₂ intakes were observed comparing to Madrid, Northeast, Southern Iberian Peninsula and the Canary Islands", specifies Prof. Varela-Moreiras.

Partearroyo T, Samaniego-Vaesken MdL, Ruiz E, Olza J, Aranceta-Bartrina J, Gil Á, et al. Dietary sources and intakes of folates and vitamin B₁₂ in the Spanish population: Findings from the ANIBES study. PLoS ONE, 2017;12(12):e0189230; doi:<https://doi.org/10.1371/journal.pone.0189230>.

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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. 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).

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