

PRESS RELEASE

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The scientific study led by the Spanish Nutrition Foundation (FEN) counts with the collaboration of a scientific committee of experts

# The scientific journal Nutrients publishes the design, protocol and methodology of the ANIBES Study

- The study involves a random and representative sample of the total population both by age groups and geographic distribution. This sample is comprised of 2,009 people aged between 9 and 75 years old and formed by 5 population-based cohorts
- The study has also included new technologies for data collection. The study
  participants received a tablet with an exclusive software with the aim of
  thoroughly including all the data about their food and drinks intake, in 10% of
  the sample physical activity was quantified by an accelerometer which enabled to
  measure the physical activity performed

The ANIBES Study has been led by Prof. Gregorio Varela-Moreiras, PhD, Chairman of the Spanish Nutrition Foundation (FEN) and Professor of Nutrition and Bromatology at CEU San Pablo University of Madrid in collaboration with a scientific committee of experts: Prof. Javier Aranceta, MD, PhD, Chairman of the Scientific Committee of the Spanish Society of Community Nutrition (SENC) and Associate Professor of Community Nutrition at the University of Navarra; Prof. Ángel Gil, PhD, Chairman of the Spanish Nutrition Society (SEÑ) and Professor of Biochemistry and Molecular Biology at the University of Granada; Prof. Marcela González-Gross, PhD, Head of the imFine Research Group and Professor of Sports Nutrition and Exercise Physiology at the Technical University of Madrid; Prof. Rosa M<sup>a</sup>. Ortega, PhD, Director of the VALORNUT Research Group and Professor of Nutrition at the Complutense University of Madrid and Prof. Lluis 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. This scientific study evaluates for the first time in Spain the intake and energy expenditure, dietary habits, anthropometric data and physical activity patterns of the population through a new design, protocol and methodology, which has been recently published in the scientific journal Nutrients <sup>(1)</sup>.

The anthropometric data collection, together with personal interviews about intake and use of new technologies (such as tablets and first-generation software) for the data



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collection, have enabled that the ANIBES Study becomes the only research until today that measures intake and energy expenditure of the Spanish population, but also one of the most accurate.

To this end, the study involves a representative sample of the entire population in Spain, both by age groups and geographic distribution. This sample is comprised of 2,009 people aged between 9 and 75 years old divided into 4 groups: children (9 to 12 years old), adolescents (13 to 17 years old), adults (18 to 64 years old) and elderly (65 to 75 years old). Furthermore, in order to make the youngest age groups statistically representative, a boost was made in the group from 9 to 18 years old, so the final sample added up to 2,285 people.

Data collection for the ANIBES Study took place from September to November 2013, after two pilot studies had been previously performed that year. In this sense, the fieldwork was divided into two different stages, in which the first one, through a personal interview, a comprehensive anthropometric data collection was carried out, an interview about the intake over the last 24 hours.

As main novelty, in this first stage the study participants received a tablet with an exclusive software with the aim of thoroughly including all the data about their intake over three days. This has allowed that all the information collected from the study is checked and coded almost in real time, not being focused only on the information of food and drink ingested, but also on the amount, the location of each participant while eating, who they were eating with, as well as whether they were doing it watching television or sitting at a table.

In addition, part of the total sample (10%), equally distributed on a proportional/representative basis, was also delivered an accelerometer which enabled their level of physical activity to be determined with a high level of reliability.

The second stage of fieldwork was focused on doing a data collection on physical activity habits of each study participant, as well as on the perception and comprehension of eating and health habits.

## **Dietary Assessment**

The methodology used in the ANIBES Study has also allowed the inclusion of information on whether the intake data recorded in the software corresponded to their regular consumption pattern of each individual or these were extraordinary cases.

On the other hand, via a specific updated dietary assessment program, the FEN could process the data obtained by transforming the information on food and drink intake into energy and nutrients, clustering data into 16 groups and 29 food subgroups and more than 760 ingredients.

In addition, there has been a thorough quality control of the data obtained, whose results have been validated by a team of dietitians and nutritionists.



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## About the ANIBES Study

In spite that several studies had previously evaluated the Spanish food quality overall, by identifying dietary patterns and nutritional status of the population, the energy balance and its determinants had never been analyzed so far. Specifically, the ANIBES Study development means to be able to evaluate, for the first time in Spain, the intake and energy expenditure of macronutrients, as well as the anthropometric data and eating behaviors and socioeconomic characteristics of the population.

Ruiz E, Ávila JM, Castillo A, Valero T, del Pozo S, Rodriguez P, Aranceta-Bartrina J, Gil A, González-Gross M, Ortega RM, Serra-Majem LI, Varela Moreiras G. The ANIBES Study on Energy Balance in Spain: Design, Protocol and Methodology. Nutrients, 2015;7:970-998; doi:10.3390/nu7020970.



















## **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 Associate 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
- **Prof. Marcela González-Gross, PhD**, Vice President of the Spanish Nutrition Society (SEÑ), Head of the imFine Research Group and Professor of Sports Nutrition and Exercise Physiology at the Technical University of Madrid
- **Prof. Rosa M<sup>a</sup> Ortega, PhD**, Director of the VALORNUT Research Group and Professor of Nutrition at the Complutense University of Madrid
- **Prof. Lluis 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)

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

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: FEN – ANIBES Press Office

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