The ANIBES scientific study on energy balance in Spain:
design, protocol and methodology

D

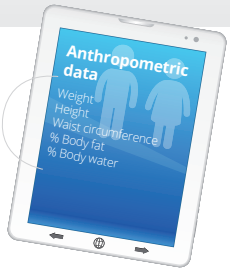
DESIGN

The main goal of the ANIBES scientific study was to evaluate energy dietary intake and energy expenditure in a national representative sample of the Spanish population by using innovative tools in order to approach the "energy balance" concept

STUDY CONDUCTION

Stratified multistage sampling

FIELDWORK DIVIDED INTO 15 CYCLES. EACH CYCLE INVOLVED:



FIRST VISIT

- Interview face-to-face fulfilling recruitment quotas anthropometric data
- 24h - Dietary Recall
- Participant training (how to use tablet and software)
- 3 - day dietary record (autofilled on tablet by participant)
- 10 % of total sample used an accelerometer

SECOND VISIT

- Interview face-to-face on physical activity habits, perceptions of health and eating habits
- Collection of the tablet and, where appropriate, the accelerometer

EQUIPMENT

90 Devices for anthropometric measuring

87 Accelerometers

Equipment used

9 % Telephones

12 % Cameras (120 devices)

79 % Tablets (426 devices)

M

METHODOLOGY

STUDY DESIGN AND SAMPLING PROCEDURE

Distribution of the sample for the ANIBES scientific study

PARTICIPANTS
(Final)

2,009 Individuals

FIELDWORK DATES

September 19th 2013

November 16th 2013

STAFF MEMBERS

90 Interviewers
12 Coordinators*

* Previously trained by FEN

STUDY DESIGN AND SAMPLING PROCEDURE

Design:
Sample size representative of all individuals living in Spain (excluding Ceuta and Melilla)
Sample:
Individuals aged 9-75 years living in municipalities > 2,000 inhabitants
Universe:
37 million of inhabitants
Final sample:
2,009 individuals (2.23 % error and 95 % confidence interval)
Random sample plus enhancement:
2,285 participants *

GENDER

MEN 50.4 %

WOMEN 49.6 %

AGE GROUPS

CHILDREN 9-12 YEARS

ADOLESCENTS 13-17 YEARS

ADULTS 18-64 YEARS

ELDERLY 65-75 YEARS

POPULATION SIZE
(Inhabitants)

2,000 - 30,000 RURAL POPULATION

30,000 - 200,000 SEMI-URBAN POPULATION

OVER 200,000 CITY-TOWN POPULATION

REGION

7 NIELSEN AREAS:

01 NORTHEAST
02 LEVANTE (EAST)
03 SOUTH
04 CENTRAL
05 NORTHWEST
06 NORTH CENTRAL
07 CANARY ISLANDS

MADRID METROPOLITAN AREA

BARCELONA METROPOLITAN AREA

OTHER FACTORS WHICH HAVE BEEN TAKEN INTO ACCOUNT

RATE OF UNEMPLOYMENT

% OF FOREIGNERS

LEVEL OF PHYSICAL ACTIVITY

EDUCATION AND ECONOMICAL LEVEL

* For the youngest groups (9–12 and 13–17) an enhancement was considered in order to have at least a n=200 per age group (error +/– 6.9 %)

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

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Improvement of Health by Fitness, Nutrition and Exercise Research Group

Coordinated by: