

**Conclusions:** In this modelling study, these two weight loss interventions were associated with relatively small health gains at a population level. Nevertheless, these are likely to be cost-saving interventions, especially the mHealth one, and could therefore still form a small component of a wider obesity reduction strategy (especially if app quality and uptake increases in the future). However, other strategies to change the obesogenic environment (marketing controls, taxes/subsidies etc.) are more effective in controlling obesity in this type of developed country.

**Keywords:** Weight loss; Cost-effectiveness modelling; Smart-phone apps; Dietary counselling.

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### IMPACT OF SOCIOECONOMIC FACTORS ON THE SPANISH POPULATION'S PERCEPTION ON BODY COMPOSITION: RESULTS FROM THE ANIBES STUDY

<sup>(1)</sup>Partearroyo, Teresa; <sup>(2)</sup>Samaniego-Vaesken, M<sup>a</sup> de Lourdes; <sup>(3)</sup>Ruiz, Emma; <sup>(4)</sup>Aranceta, Javier; <sup>(5)</sup>Gil, Ángel; <sup>(6)</sup>González-Gross, Marcela; <sup>(7)</sup>Ortega, Rosa M; <sup>(8)</sup>Serra-Majem, Lluís; <sup>(9)</sup>Varela, Gregorio.

<sup>(1)</sup>PhD. Pharmacist. Department of Pharmaceutical & Health Sciences. Faculty of Pharmacy. CEU San Pablo University. Soain; <sup>(2)</sup>PhD. Nutritionist. Department of Pharmaceutical and Health Sciences. Faculty of Pharmacy. CEU San Pablo University. Madrid. Spain; <sup>(3)</sup>Nutritionist. Spanish Nutrition Foundation (FEN). Madrid. Spain; <sup>(4)</sup>PhD. Physician. Department of Preventive Medicine and Public Health. University of Navarra. Pamplona, Spain.; <sup>(5)</sup>Prof. Biologist. Department of Biochemistry and Molecular Biology II and Institute of Nutrition and Food Sciences. University of Granada. Granada. Spain; <sup>(6)</sup>Prof. Pharmacist. ImFINE Research Group. Department of Health and Human Performance. Technical University of Madrid. Spain; <sup>(7)</sup>Prof. Pharmacist. Department of Nutrition. Faculty of Pharmacy. Madrid Complutense University. Madrid. Spain; <sup>(8)</sup>PhD. Physician. Research Institute of Biomedical and Health Sciences. University of Las Palmas de Gran Canaria. Las Palmas de Gran Canaria. Spain.; <sup>(9)</sup>Prof. Pharmacist. Department of Pharmaceutical and Health Sciences. Faculty of Pharmacy. CEU San Pablo University. Madrid. Spain.

**Background and objectives:** Background: The increase in obesity prevalence is well known and many factors can play an important role in its development. The relative contributions of energy intake and expenditure to the obesity epidemic, however, remain poorly defined in Spain. Moreover, few studies in our country undertake the investigation of subject's perception on their nutritional status and its relation with socioeconomic status in the Spanish population.

**Objectives:** To analyse the relevance of perception, attitudes and socioeconomic status in relation to body composition

**Methods:** A total of 2009 individuals (1,013 men, 996 women), aged 9–75 years from the ANIBES cross-sectional Study using a nationally-representative sample from the Spanish population

was studied. The following variables were investigated: age groups, gender, geographical distribution, locality size, unemployment rate, percentage of foreigners, education or economic level, anthropometric factors Anthropometry measurements (weight, height, body mass index, waist circumference, % body fat, % body water), perceived health, quality of life and diet.

**Results:** Body fat percentage (%) decreases with increasing habitat size, population density ( $\chi^2 = 0,042$ ) and socioeconomic status ( $\chi^2 = 0,000$ ). Individuals have a clearer perception of their weight ( $\chi^2 = 0,000$ ) as well as their diet ( $\chi^2 = 0,000$ ) related to body fat composition. A better health status perception is observed in subjects with lower BMI values, while higher BMI subjects declare a higher effort to improve their diets ( $\chi^2 = 0,004$ ). At normal BMI values, better perception of weight and diet ( $\chi^2 = 0,000$ ) and at lower BMIs, subjects declare higher number of hours of sleep ( $\chi^2 = 0,000$ ).

**Conclusions:** Self-reported perception on diet and health status are associated with an adequate body image in the Spanish population. In addition, subjects living in cities with higher population density and having a better socioeconomic status present lower obesity prevalence.

**Keywords:** Body Mass Index, Obesity, perception, socioeconomic status

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### THE PARTICIPATION OF NUTRITIONISTS AS A SOURCE OF INFORMATION FOR PRESS ARTICLES RELATED TO OBESITY, PUBLISHED DURING THE YEARS 2008-2013 IN COLOMBIA

<sup>(1)</sup>Correa-Madrid, María Camila; <sup>(2)</sup>Isabel Cristina, Carmona Garcés; <sup>(3)</sup>González-Zapata, Laura Inés.

<sup>(1)</sup>Nutritionist. Universidad de Antioquia. Colombia.;

<sup>(2)</sup>Nutritionist. MSc Educación. Profesora Asistente. Escuela de Nutrición y Dietética. Universidad de Antioquia. Grupo de Investigación Interdisciplinaria en Educación para la Salud y Educación Nutricional. GIIESEN. Universidad de Antioquia. Colombia; <sup>(3)</sup>PhD. Nutritionist. School of Nutrition and Dietetics. University of Antioquia. Medellín. Colombia.

**Background and objectives:** Overweight and obesity are a public health problem in Colombia. By 2010 one in two Colombians had one of these problems. One of the functions of the mass media is to mobilize society around these topics and is very important the participation of nutritionists as a part of the nutrition education in these kind of communication channels. The aim of this paper is to describe the participation of nutritionists as a source of information supporting the publication of articles about obesity in newspapers during the years 2008-2013.

**Methods:** Cross-sectional study. 163 news were selected from two newspapers; 48 from El Espectador and 115 from El Colombiano. A descriptive analysis was performed using X2 tests to establish the relationship between the variables of interest.  $\alpha = 0.05$ . SPSS v.18.

**Results:** During the study period a gradual increase in news related to obesity was found. The most used source of information in the news was scientific-academic (42.3%) and only 6.7% of the articles used nutritionist as a source. When a nutritionist was used as a source to produce the news, there is not an association between the topic and the source.

**Conclusions:** The newspaper articles related with obesity increased in Colombia. The challenge for nutritionists is to gain participation in mass media like press, in order to achieve the objectives around the prevention and control of this issue.

**Keywords:** Obesity; press; mass media; health communication.

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### USE OF MARKETING TECHNIQUES ON A SELECTED SAMPLE OF FOOD PACKAGES IN ARGENTINA

<sup>(1)</sup>Allemandi, Lorena Andrea; <sup>(2)</sup>Castronuovo, Luciana; <sup>(3)</sup>Tiscornia, María Victoria; <sup>(4)</sup>Gutkowski, Patricia; <sup>(5)</sup>Nessier, Celeste; <sup>(6)</sup>Gijena, Julieta.

<sup>(1)</sup>Bsc. Public Health. Fundación InterAmericana del Corazón Argentina. Argentina.; <sup>(2)</sup>PhD. Sociology. Fundación InterAmericana del Corazón Argentina. Argentina.; <sup>(3)</sup>BSc. Nutritionist. Fundación InterAmericana del Corazón Argentina. Argentina.; <sup>(4)</sup>BSc. Communication Science. Fundación InterAmericana del Corazón Argentina. Argentina.; <sup>(5)</sup>MSc. Nutritionist. Universidad Católica de Santa Fe. Argentina.

**Background and objectives:** Marketing of unhealthy foods plays an important role in the rising prevalence of childhood obesity. Product packaging is a significant marketing method. The objective of our study was to investigate marketing techniques (characters and premium offers) used on food packages of a selected sample of products.

**Methods:** Data for breakfast cereals, cookies and milk desserts was collected at a major supermarket chain in Argentina in June 2016. Pictures were taken on the front, sides and back of all products, including Nutrition Information Panel (NIP) and ingredient list. We translated and adapted the internationally standardised International Network for Food and Obesity/Non-Communicable Diseases Research, Monitoring and Action Support (INFORMAS) protocol. Pictures and nutrient data from the NIP were entered into a food database designed and tested for this study. For the analysis of nutritional quality we used the PAHO and the WHO Europe nutrient profiles (NP) models. Statistical analysis were conducted using R Statistical software.

**Results:** We analyzed 301 food packages: 42 breakfast cereals, 209 cookies and 50 milk desserts. Premium offers were found in 18% (n=55) of all products, 45% of this were found on the front side of the packages (n=25). Promotional characters appeared on 32% (n=95) of all products, of those 69% (n=56) appeared on the front side of the package.

In each category, 62% (n=31) of breakfast cereals, 25% (n=52) of cookies and 62% (n=31) of milk desserts featured promotion-

al characters, and 2% (n=1) of breakfast cereals, 16% (n=33) of cookies and 42% (n=21) of milk desserts included premium offers.

Products with one excess nutrient (PAHO NP model) had significantly more promotional characters and premium offers (p<0.0005). Only 23% (n=9) without excess nutrients included promotional characters and 3% (n=1) included premium offers.

**Conclusions:** Promotional characters and premium offers are used to promote unhealthy food products in Argentina. Evidence-based public health policies should restrict the use of these marketing techniques on products with high levels of sugars, fats and/or sodium, especially when children are exposed to them.

**Keywords:** Childhood obesity, Marketing, Food Packaging, Nutritional Quality, Argentina

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### NUTRITIONAL STATUS OF THE PEOPLE ASISTED IN THE PRIMARY LEVEL HEALTH SERVICES IN MONTEVIDEO AND INLAND OF URUGUAY

<sup>(1)</sup>Elichalt, Marta; <sup>(2)</sup>Gronros, Diana.

<sup>(1)</sup>MSc. Nutritionist. Nutrition School. University of the Republic. Uruguay.; <sup>(2)</sup>Nutritionist. Nutrition School. University of the Republic. Uruguay.

**Background and objectives:** To characterize the nutritional status (NS) of the assisted population in primary care services in Montevideo and inland between April and November 2016. To compare the type and magnitude of the nutritional problems between services of Montevideo and it's inland, and between services of Montevideo, according to municipal grouping based on the proportion of poor families (PF).

**Methods:** The information collected by the students in the last year of the Nutrition Degree was systematized, and they applied a survey with Google forms. The information collected was: sex, age, reason for referral, anthropometric diagnosis and service. The NS in children was assessed by anthropometric indicators and compared with WHO standard on 2006. In adults, the body mass index was used and compared with the WHO reference on 1998. The services were grouped by location considering the municipal division of Montevideo according to the proportion of FP by level of income.

**Results:** The assisted population was 1982 corresponding to 17 services. Of all, 75% were women and almost half were over 18 years of age. 50% of referral reasons were Non-Communicable Diseases. Over-malnutrition exceeded the value identified in studies at the national level in one-third of services. Deficit malnutrition varied in services between 5% and 20%. In children under 18, the prevalence of malnutrition due to deficit and excess was bigger than in other national studies. There are important differences in malnutrition due to deficit and excess in adults and children among services with a higher proportion of PF.

**Conclusions:** There are problems of excess and deficit that surpass the national data. The nutritional stage in which the user is captured and the proportion of PF are probably determinants