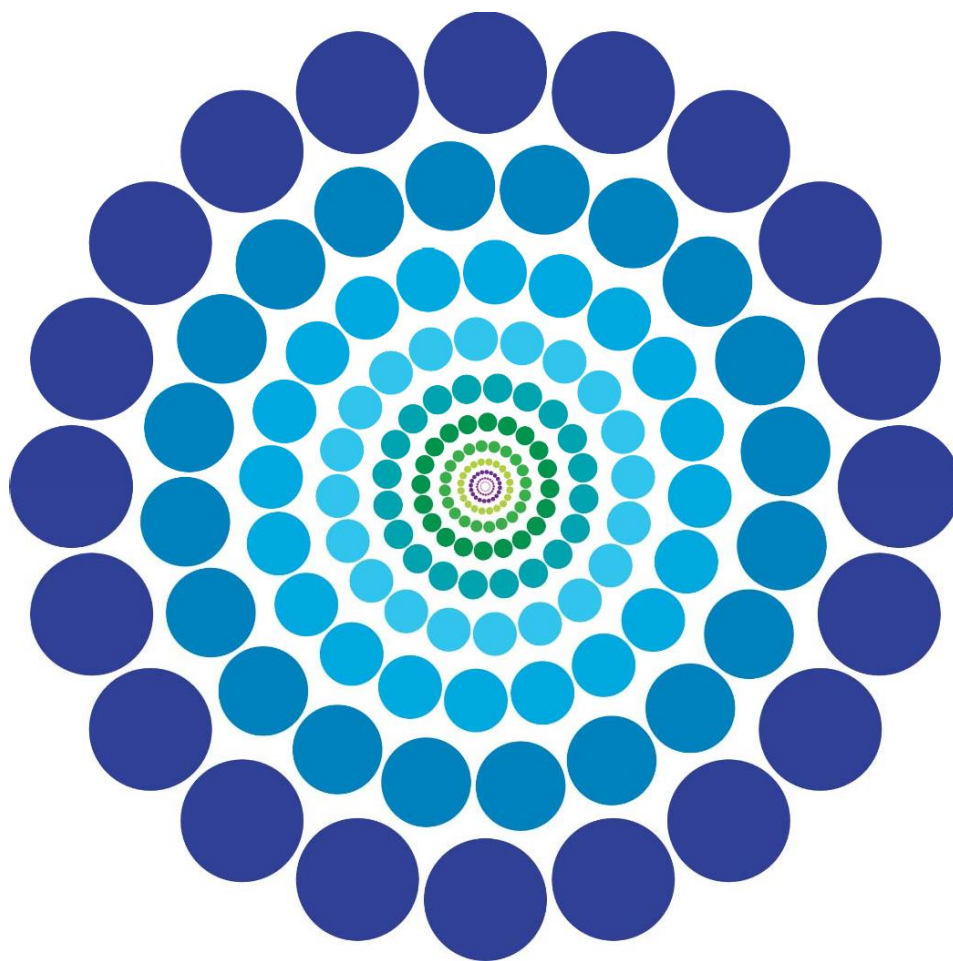


Study about the nutritional information of processed food provided through labelling in Spain. 2014



The NAOS Strategy, the initials of which stand for Nutrition, Physical Activity and Prevention of Obesity, is the response from the Ministry of Health, Social Services and Equality from the Government of Spain to the problem of obesity. Coordinated by the Spanish Agency for Consumer Affairs, Food Safety and Nutrition (AECOSAN), the NAOS Strategy aims to make the population aware of the problem that obesity represents for health, to promote health through healthy eating habits and physical exercise, and to bring together and promote those public or private initiatives that help to ensure that the public, in particular children and adolescents, adopt these healthy eating habits throughout their life.

For further information on the NAOS Strategy, the Observatory of Nutrition and of the Study of Obesity and the activities of AECOSAN please see our web page:

http://www.aecosan.msssi.gob.es/AECOSAN/web/subhomes/nutricion/aecosan_nutricion.shtml

<http://www.aecosan.msssi.gob.es/AECOSAN/web/nutricion/seccion/observatorio.shtml>



Study about the nutritional
information of processed food
provided through labelling in Spain.
2014

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Recommended citation:

Study of the nutritional information about processed food provided through labelling in Spain. 2014. Spanish Agency for Consumer Affairs, Food Safety and Nutrition. Ministry of Health, Social Services and Equality. Madrid, 2015.

Edited by: Ministry of Health, Social Services and Equality.

Spanish Agency for Consumer Affairs, Food Safety and Nutrition, 2015

NIPO: 690-15-006-X

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INTRODUCTION

The nutritional information provided in food labelling referring to saturated fats, sugar and sodium (salt) is not obligatory, but is considered desirable in products which are major sources of these nutrients in the population. Nutritional information is a necessary tool to enable consumers to make healthy decisions regarding their eating habits. Adequate labelling helps the consumer to purchase products which are more suited to their needs. In addition, regular monitoring of the content of these nutrients is necessary for the assessment of reformulation processes for this type of product.

Regulations on nutritional information in food labelling

In Spain, the aspects of labelling relating to the nutritional properties of food products have been regulated by Royal Decree 930/1992, of 17 July. This Royal Decree defines “nutritional labelling” as any information which appears on the label in relation to the energy value and the following nutrients: proteins, carbohydrates, fats, food fibre, sodium and vitamins and mineral salts. Nutritional labelling is voluntary provided that no reference is made to the product having certain nutritional or health properties, in which case the types of information provided on the nutrition labelling correspond either to group 1, or to group 2.

Group 1. Energy value (KJ and Kcal). Quantity of proteins (g), carbohydrates (g) and fats (g).

Group 2. Energy value (KJ and Kcal). Quantity of proteins (g), carbohydrates (g), sugars (g), fats (g), saturated acids (g), food fibre (g) and sodium (g).

The regulation which establishes the new requirements for food labelling, listed in Regulation (EU) 1169/2011 of the European Parliament and of the Council of 25 October 2011 on the provision of food information to consumers, published in November 2011 came into force on 13 December 2014. This regulation consolidates and updates two areas of legislation regarding labelling: the general labelling of foodstuffs, regulated by Directive 2000/13/EC, and nutritional labelling, the objective of directive 90/496/EEC.

Obligatory nutritional information in accordance with the rules of Regulation 1169/2011 is not required until 13 December 2016. Nevertheless when a food provides nutritional information voluntarily or must provide it to make nutrition or health claims, or because it is a food to which vitamins, minerals or other substances have been added, it is required to comply with the new requirements from 13 December 2014.

OBJECTIVE

The principal objective of this study is to list the energy and nutrient content (total and saturated fats, carbohydrates, sugar, proteins, salt and fibre) in certain categories of products normally consumed in the Spanish population, from the nutritional labelling declared in the packaging in 2014.

METHODOLOGY

List of products

Based on a list of products taken from an earlier study (2010) conducted by the AECOSAN, a new list was drawn up with the products to be assessed in 2014. Attempts were made to ensure that the products studied exactly matched those studied in 2010. If a product had been withdrawn from the market, or undergone any type of modification in its presentation or formulation, a similar product was sought.

The search for the products was conducted in nationally established supermarkets and large stores. The products were assessed by direct inspection of the nutritional labelling of each of the references at the points of sale.

The field work was carried out in October and November 2014.

Computer application for data collection

A computer application was developed to collect data from the nutritional labelling of the products. The application enabled the surveyors to work simultaneously, and in real time to synchronise the data entered on different devices, and at all times to have an updated database in Excel format (figure 1).

Work procedure

The field worker selected the food of interest from a list in the application and opened the product sheet (figure 2) to enter nutrition labelling information. From this product sheet, it was possible to take a photo of the packaging containing the nutritional information, for a second subsequent review.

This photograph, taken from the product sheet itself, was stored in a database of photos of packaging. For each product, information was collected regarding the energy, total fat, saturated fat, carbohydrates, sugar, protein, fibre and salt, in g/100 of product. In addition the density (g of nutrient /Kcal) was calculated for fats, saturated fats and fibre.

The content in monounsaturated fatty acids (MUFA) and polyunsaturated fatty acids (PUFA), cholesterol, starch, polyols, calcium and vitamin C was sought. However hardly any products were found with this information, and there were not enough to make estimates regarding averages or means which might provide precise information.



Figure 1. Menu of the application designed for the collection of data from the nutrition labelling of regularly consumed products.

Personnel

The field work was carried out by personnel with training in Nutrition and Diet, who received a specific training session on all the technical and practical aspects of the same.

Quality control

In order to control quality, the coding and tabulation of the data collected were made by a double entry system (two different people).

Analysis of results

The food was categorised into groups.

For each of the nutrients in the product about which information was collected, the arithmetic mean, standard deviation, median, minimum and maximum were calculated within each group of food.

In addition, in the case of energy, the results were analysed separately for solid and liquid products, since usually the quantity (in volume) of food consumed as a portion is greater in liquid products.

The 604 products included in the list provided by AECOSAN (table 1) were selected in 2010, being then food products of habitual consumption. Due to the disappearance of some products from 2010 and the marketing of new products in 2014, new equivalent products were included.

RESULTS

Table 1 shows the number of products studied in 2014, from the list provided and by group and subgroup of food. There are 597 products classified into 22 groups of food, and 58 subgroups.

The tables give the quantities of energy, total fat, saturated fat, carbohydrates, sugar, protein, fibre and salt in grams, declared in 100 g of product, according to general food groups. The graphs are graphical displays of the same data.

Energy

The mean amount of energy (in Kcal and KJ) per 100 g of product can be seen in tables 2 and 3, for solid food, and 4 and 5 for liquid food. Similarly in graphs 1 and 2 (solid food), and 3 and 4 (liquid food).

Fats

Table 6 and graph 5 show the total amounts of fat found in the labelling of the different food groups, expressed in g of fat per 100 g of product. Graph 6 shows the density of total fats, expressed in g of total fat per 100 Kcal.

In addition, table 7 and graph 7 show the quantities of saturated fats (g/100 g of product), and graph 8 gives the density of saturated fats (g of saturated fats per 100 Kcal).

The proportion of saturated fats with respect to total fat is represented in graph 9.

Carbohydrates

The total content of carbohydrates (g/100 g of product) is given in table 8 and graph 10, and the amount of sugar, in table 9 and the graph 11.

Graph 12 shows the proportion of sugar with respect to the total carbohydrates.

Proteins

The quantity of proteins measured in g/100 g of product is given in table 10 and graph 13.

Dietary fibre

The dietary fibre content (g/100 g of product) is shown in table 11 and graph 14. In addition the fibre density (g of fibre per 100 Kcal) is given in graph 15.

Salt

The salt content, expressed as g/100 g of product, can be seen in table 12 and graph 16.

Table 1. Analysed products.

Group	n	Subgroup	n
Salted snacks	23	Microwave popcorn	10
		Corn snacks	13
Crisps	23	Homemade style crisps	10
		Normal traditional crisps	13
Cakes and pastries	28	Croissants	10
		Muffins	9
		Children's pastries	5
		Doughnuts	4
Biscuits	32	Rich tea biscuits	10
		Sandwich biscuits	10
		Toasted biscuits	12
Industrial bread	22	White bread	11
		Brown bread	11
Sauces	29	Ketchup	11
		Mayonnaise	10
		Other sauces	8
Tomato sauce	20	Tomato sauce	20
Spreadable fats	21	Butter	11
		Margarine	10
Ice-cream	40	Ice-cream in cartons	9
		Individual ice-creams	10
		Family packs	11
		Frozen cakes	10
Yoghurts and dairy desserts	49	Yoghurts	14
		Other dairy desserts	35
Ready meals	45	Pizza base	9
		Cannelloni	9
		Lasagne	10
		Pizza	17
Chocolate and cocoa-based products	34	Spreadable chocolate	3
		Chocolate bars	4
		Chocolate drops	3
		Chocolate eggs	4
		Chocolate powder	9
		Bars of chocolate	11
Cereals	41	Sweetened breakfast cereals	7
		Cereal bars	9
		Breakfast cereals with chocolate	10
		Wheat cereal with honey	8
		Muesli	7
Processed meats	36	Cured chorizo	9
		Spam	8
		Mortadella sausage	8
		Sausages	11
Spreadable cheeses and cheese dishes	29	Melted cheese	12
		Spreadable /soft cheese	11
		Other cheese	6
Sweetened soft drinks	19	Sweetened soft drinks	19
Juices and nectars	21	Fresh fruit juice	6
		Juices and nectars not 100% squeezed	15
Peaches in syrup	10	Peaches in syrup	10
Pineapple in its own juice	11	Pineapple in its own juice	11
Marmalades and jams	24	Jams	12
		Marmalades	12
Sweets	20	Sweets	20
Fast food restaurant products	20	Sandwiches	7
		Burgers	8
		Pizzas	5
Total	597		597

Table 2. Quantity of energy in solid foods. Kcal/100 g of product.

	Mean	SD	Median	Minimum	Maximum
Salted snacks	467.9	31.5	470.0	391.0	516.0
Crisps	534.9	34.5	543.0	406.0	566.0
Cakes and pastries	443.1	38.0	444.5	372.0	499.0
Biscuits	443.7	63.7	455.5	133.0	508.0
Industrial bread	252.3	10.1	250.5	229.0	274.0
Sauces	298.7	233.4	143.0	69.0	653.0
Tomato sauce	71.0	19.6	74.8	18.0	107.0
Spreadable fats	635.0	117.3	676.0	366.0	754.0
Ice-cream	215.4	108.0	219.0	72.0	685.0
Yoghurts and dairy desserts	123.1	72.1	112.0	40.0	567.0
Ready meals	212.8	64.7	226.0	126.0	396.0
Chocolate and cocoa-based products	496.6	71.4	520.5	369.0	620.0
Cereals	404.2	32.5	396.0	361.0	497.0
Processed meats	275.3	94.6	252.5	125.0	511.0
Spreadable cheeses and cheese dishes	255.3	78.3	242.0	108.0	450.0
Peaches in syrup	68.2	15.9	76.0	33.0	81.0
Pineapple in its own juice	57.0	4.4	56.0	53.0	65.0
Marmalades and jams	208.9	25.4	196.5	160.0	261.0
Sweets	337.1	42.8	335.0	239.8	404.0
Fast food restaurant products	450.9	145.0	510.0	231.0	658.0

Table 3. Quantity of energy in solid foods. KJ/100 g of product.

	Mean	SD	Median	Minimum	Maximum
Salted snacks	2005.5	2003.0	104.7	1844.0	2161.0
Crisps	2254.5	2264.5	75.2	2106.0	2357.0
Cakes and pastries	1850.9	1853.0	149.7	1564.0	2083.0
Biscuits	1925.3	1922.0	111.3	1766.0	2087.0
Industrial bread	1059.1	1055.0	34.0	1004.2	1114.0
Sauces	1171.6	609.0	921.8	287.0	2689.0
Tomato sauce	269.7	307.0	104.4	77.0	389.0
Spreadable fats	2732.8	3015.5	436.3	2000.0	3101.0
Ice-cream	841.3	917.0	339.6	164.0	1621.0
Yoghurts and dairy desserts	475.8	474.5	170.7	168.0	875.0
Ready meals	855.9	941.5	222.6	529.0	1275.4
Chocolate and cocoa-based products	2041.4	2129.5	262.4	1565.0	2384.0
Cereals	1707.6	1665.0	131.6	1523.0	2076.0
Processed meats	1157.4	1049.8	392.1	523.0	2138.0
Spreadable cheeses and cheese dishes	1050.6	998.0	368.0	213.0	1865.0
Peaches in syrup	289.1	322.0	67.8	139.0	343.0
Pineapple in its own juice	240.2	238.0	18.1	223.0	273.0
Marmalades and jams	853.4	833.0	201.7	83.0	1110.0
Sweets	1440.0	1414.5	120.5	1305.0	1664.0

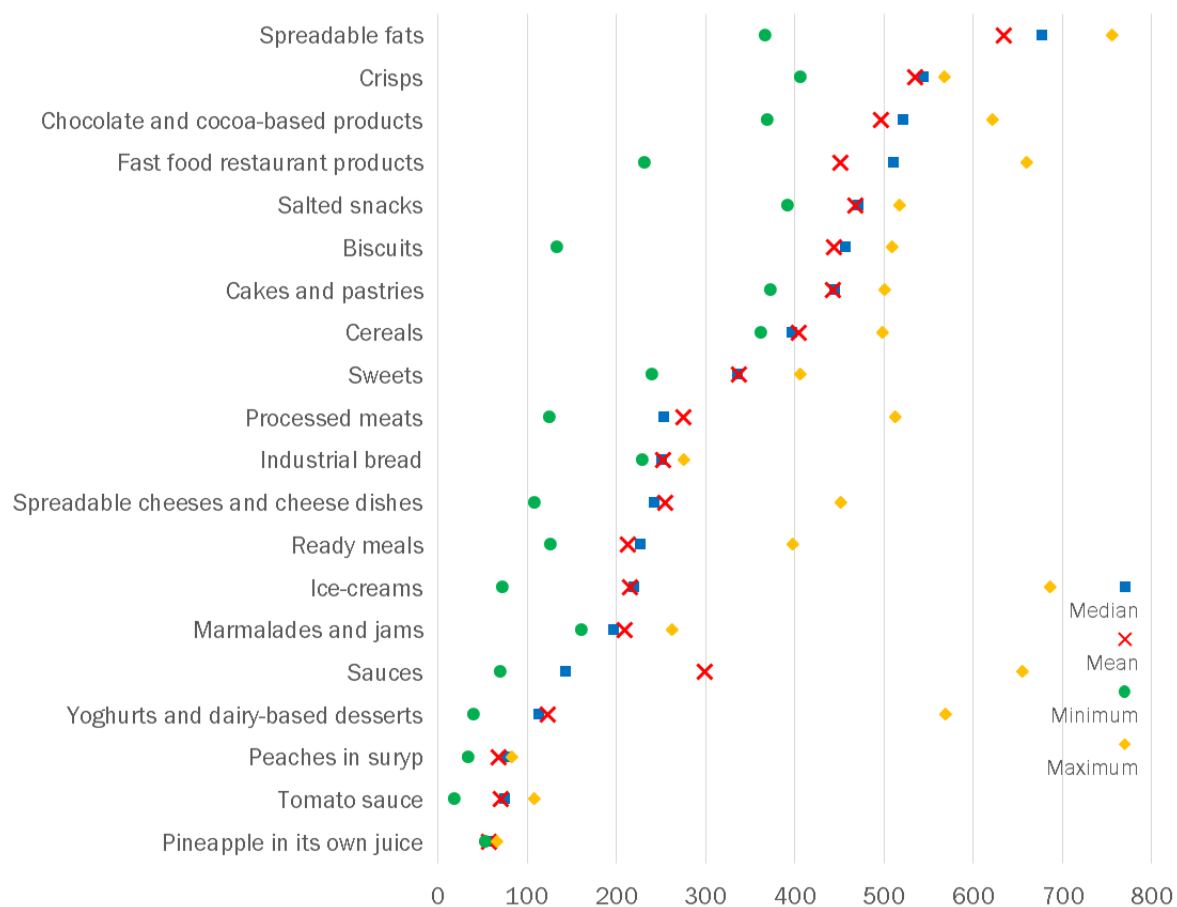
Table 4. Quantity of energy in liquid foods. Kcal/100 g of product.

	Mean	SD	Median	Minimum	Maximum
Sweetened soft drinks	30.6	14.1	30.8	7.5	54.0
Fresh fruit juice	42.8	2.9	42.0	40.0	48.0
Juices and nectars not 100% squeezed	41.5	9.5	45.0	19.0	52.0

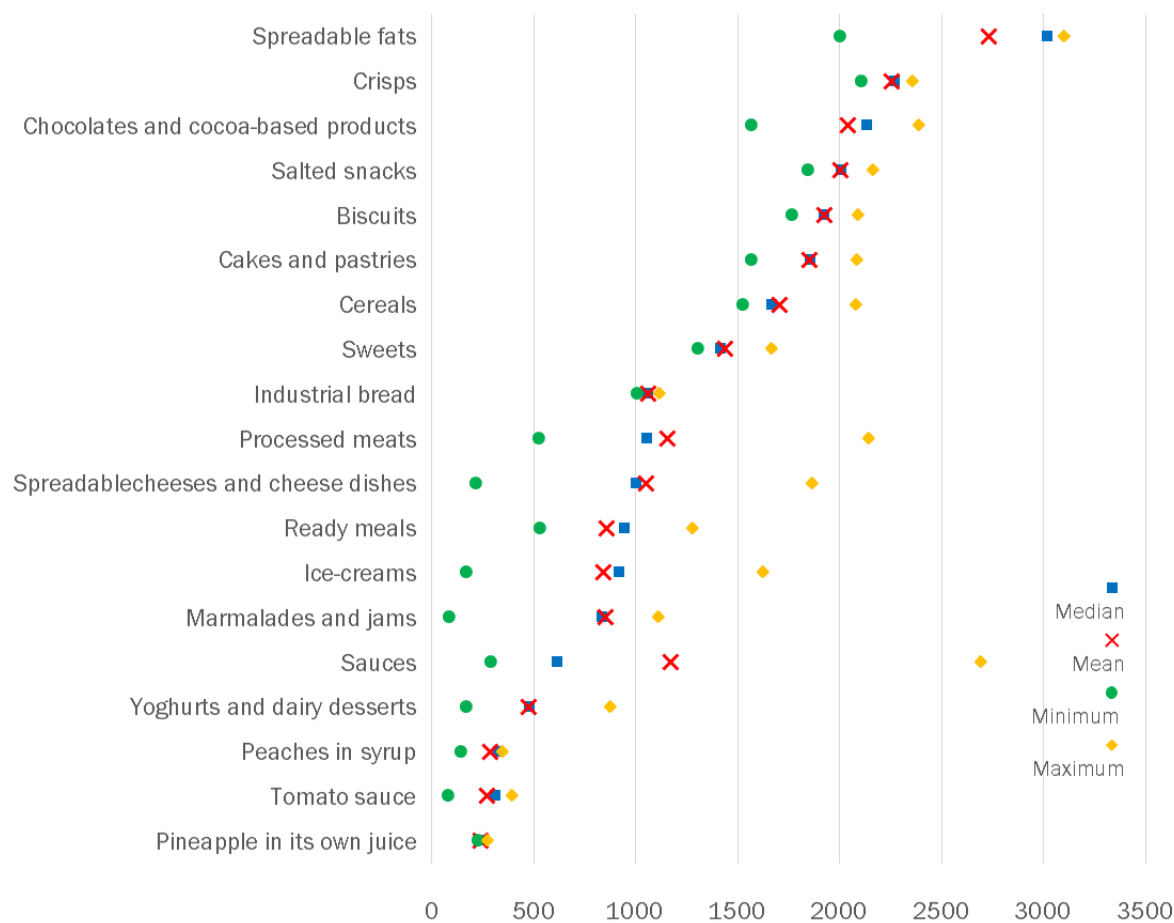
Table 5. Quantity of energy in liquid foods. KJ/100 g of product.

	Mean	SD	Median	Minimum	Maximum
Sweetened soft drinks	132.2	58.4	131.0	32.0	229.0
Fresh fruit juice	181.8	12.4	179.0	169.0	202.0
Juices and nectars not 100% squeezed	171.6	41.9	190.0	80.0	219.0

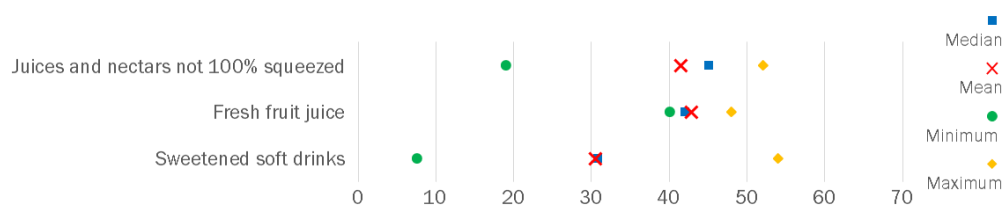
Graph1. Energy content (solid foods). Kcal/100 g of product



Graph2. Energy content (solid foods). KJ/100 g of product



Graph 3. Energy content (liquid foods). Kcal/100 g of product



Graph 4. Energy content (liquid foods). KJ/100 g of product

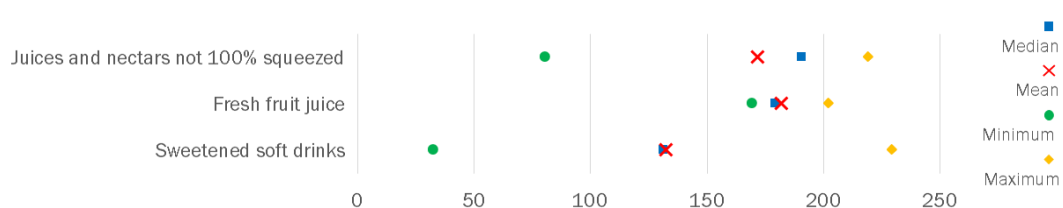


Table 6. Quantity of total fats (g/100 g of product) in food.

	Mean	SD	Median	Minimu	Maximu
Salted snacks	20.7	5.5	21.6	11.8	33.0
Crisps	34.6	2.7	34.5	28.9	38.2
Cakes and pastries	24.2	5.0	24.3	14.0	32.0
Biscuits	14.0	5.6	13.8	3.2	24.0
Industrial bread	3.2	1.0	3.0	2.0	5.6
Sauces	28.9	30.0	22.5	0.0	70.8
Tomato sauce	3.2	1.2	3.4	0.1	5.1
Spreadable fats	70.2	13.0	75.0	40.0	83.0
Ice-cream	9.7	4.7	9.2	0.3	18.0
Yoghurts and milk-based desserts	3.7	2.4	2.9	0.2	10.8
Ready meals	7.8	2.2	7.5	1.5	14.0
Chocolate and cocoa-based products	24.2	13.5	29.8	1.3	48.0
Cereals	7.6	7.2	3.9	0.0	25.0
Processed meats	22.0	9.4	20.7	5.2	46.0
Spreadable cheeses and cheese dishes	21.0	8.3	21.0	2.7	39.0
Peaches in syrup	0.1	0.2	0.1	0.0	0.5
Pineapple in its own juice	0.1	0.1	0.1	0.0	0.5
Marmalades and jams	0.1	0.1	0.0	0.0	0.5
Sweets	2.3	3.7	0.4	0.0	12.1
Fast food restaurant products	22.1	8.3	20.0	13.0	37.0
Sweetened soft drinks	0.0	0.0	0.0	0.0	0.0
Fresh fruit juice	0.0	0.1	0.0	0.0	0.1
Juices and nectars not 100% squeezed	0.1	0.1	0.1	0.0	0.2

Graph 5. Total fat content g/100 g of product.



Graph 6. Density of total fat. g of total fat /100 Kcal.

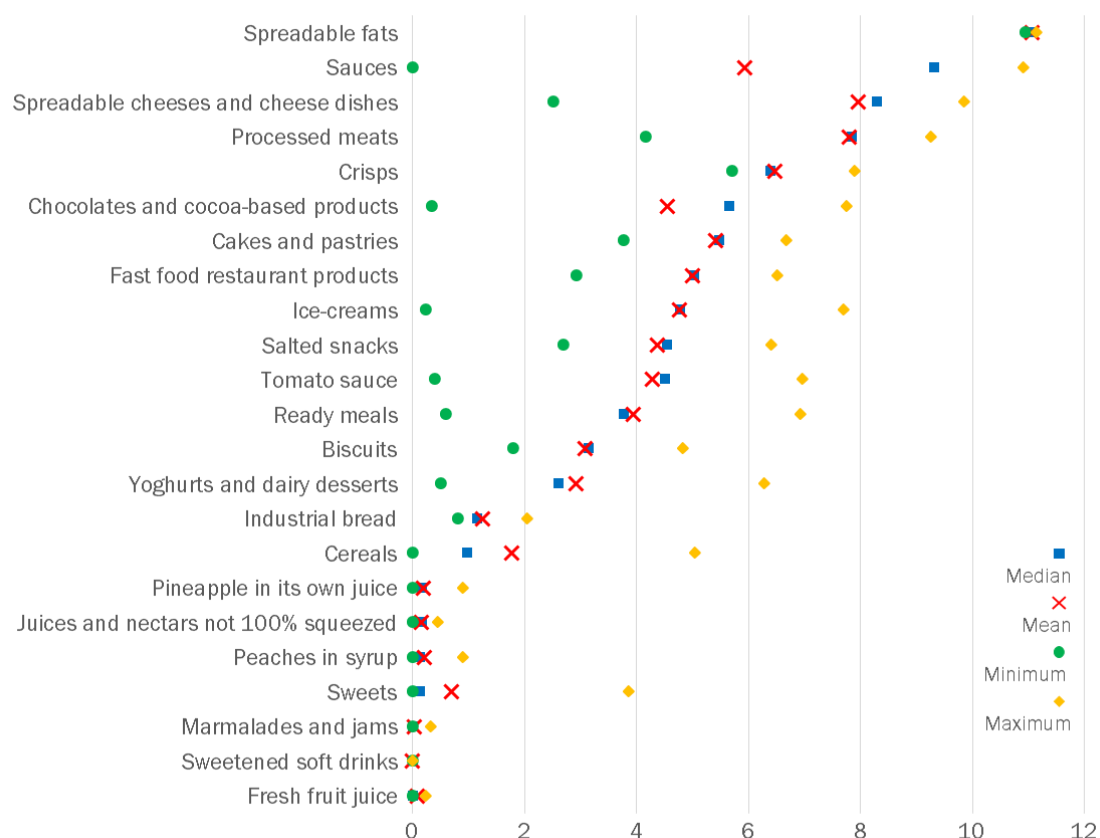
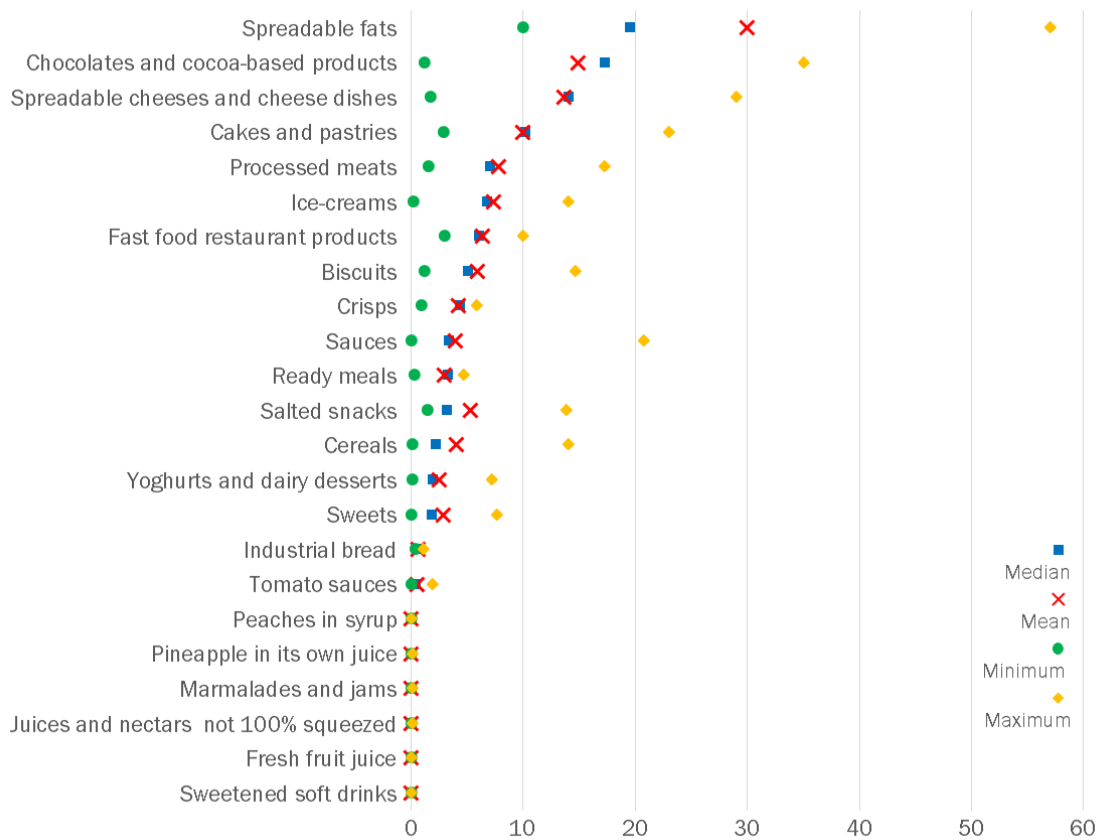


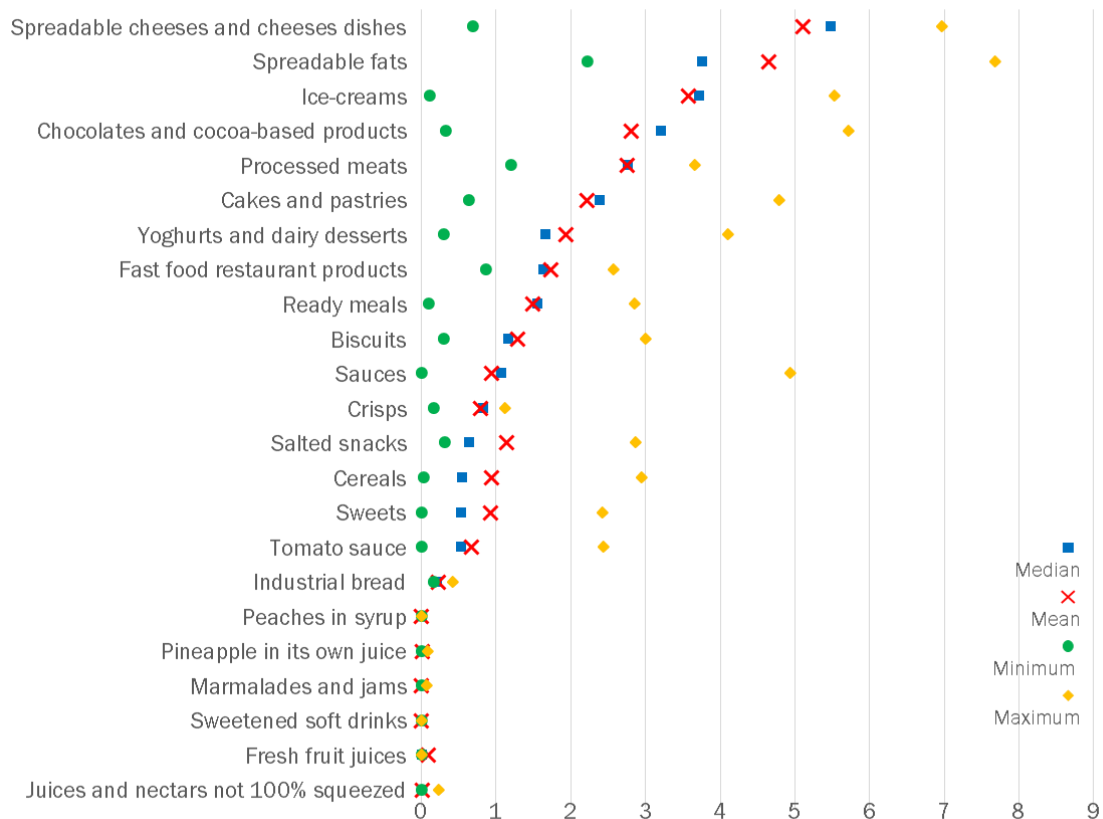
Table 7. Quantity of saturated fat (g/100 g of product) in food.

	Mean	SD	Median	Minimum	Maximum
Salted snacks	5.3	4.4	3.2	1.4	13.8
Crisps	4.2	1.0	4.3	0.9	5.8
Cakes and pastries	10.0	5.9	10.2	2.9	23.0
Biscuits	5.9	4.0	5.0	1.2	14.6
Industrial bread	0.6	0.2	0.5	0.4	1.1
Sauces	4.0	4.9	3.3	0.0	20.7
Tomato sauce	0.5	0.5	0.4	0.0	1.9
Spreadable fats	30.0	18.4	19.5	10.0	57.0
Ice-cream	7.4	3.7	6.8	0.2	14.0
Yoghurts and milk-based desserts	2.5	1.6	1.9	0.1	7.2
Ready meals	3.0	1.0	3.2	0.3	4.7
Chocolate and cocoa-based products	14.9	9.1	17.2	1.2	35.0
Cereals	4.1	4.0	2.2	0.1	14.0
Processed meats	7.8	3.7	7.0	1.5	17.2
Spreadable cheeses and cheese dishes	13.7	6.6	14.0	1.7	29.0
Peaches in syrup	0.0	0.0	0.0	0.0	0.0
Pineapple in its own juice	0.0	0.0	0.0	0.0	0.1
Marmalades and jams	0.0	0.0	0.0	0.0	0.1
Sweets	2.9	3.1	1.8	0.0	7.6
Fast food restaurant products	6.3	1.9	6.0	3.0	10.0
Sweetened soft drinks	0.0	0.0	0.0	0.0	0.0
Fresh fruit juice	0.0	0.0	0.0	0.0	0.0
Juices and nectars not 100% squeezed	0.0	0.0	0.0	0.0	0.1

Graph 7. Saturated fat content g/100 g of product.



Graph 8. Density of saturated fats. g of saturated fat /100 Kcal.



Graph 9. Proportion of saturated fats. g of saturated fats x 100/g of total fat.



Table 8. Quantity of carbohydrates in food .g/100 g of product.

	Mean	SD	Median	Minimu	Maximu
Salted snacks	60.9	9.6	59.7	44.0	75.0
Crisps	48.6	2.8	49.2	44.1	52.6
Cakes and pastries	49.1	4.9	49.9	38.0	57.1
Biscuits	71.9	10.3	73.5	23.7	81.0
Industrial bread	44.9	2.6	45.1	40.0	49.0
Sauces	13.0	9.9	9.4	2.0	35.8
Tomato sauce	9.0	3.3	9.3	2.6	19.0
Spreadable fats	0.5	0.3	0.5	0.0	1.2
Ice-cream	24.4	13.0	24.0	9.0	85.6
Yoghurts and dairy desserts	16.4	4.3	16.4	5.4	26.8
Ready meals	26.2	15.5	24.4	9.6	66.8
Chocolate and cocoa-based products	62.7	12.3	58.0	43.0	86.2
Cereals	74.6	9.7	75.8	57.0	88.0
Processed meats	4.4	3.4	3.5	0.1	12.0
Spreadable cheeses and cheese dishes	5.2	3.5	4.2	1.0	14.0
Peaches in syrup	16.6	3.9	18.3	7.0	19.5
Pineapple in its own juice	13.3	1.1	13.1	12.1	15.0
Marmalades and jams	51.5	6.1	48.0	40.0	64.0
Sweets	84.6	8.7	84.9	74.3	98.6
Fast food restaurant products	39.6	14.5	41.0	15.0	61.0
Sweetened soft drinks	7.5	3.5	7.7	1.9	13.0
Fresh fruit juice	9.9	0.9	9.7	9.0	11.5
Juices and nectars not 100% squeezed	9.6	2.3	10.3	4.4	12.3

Graph 10. Carbohydrate content g/100 g of product.

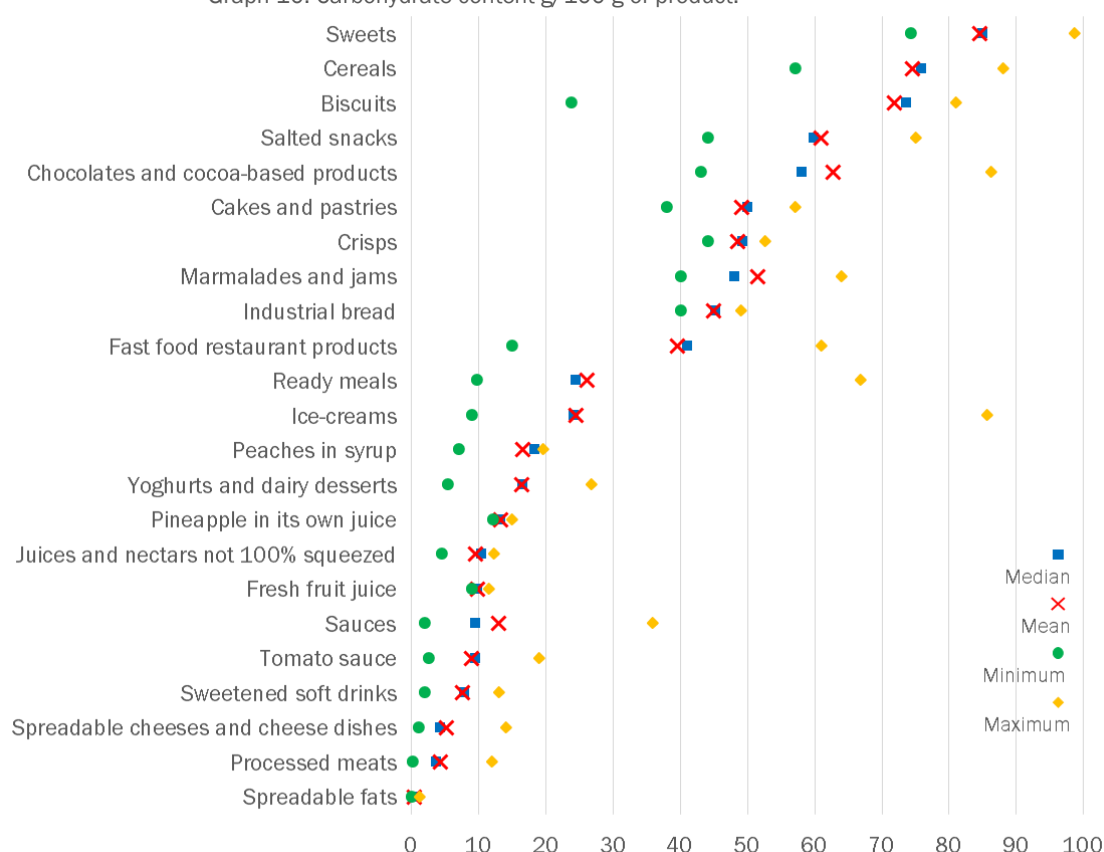
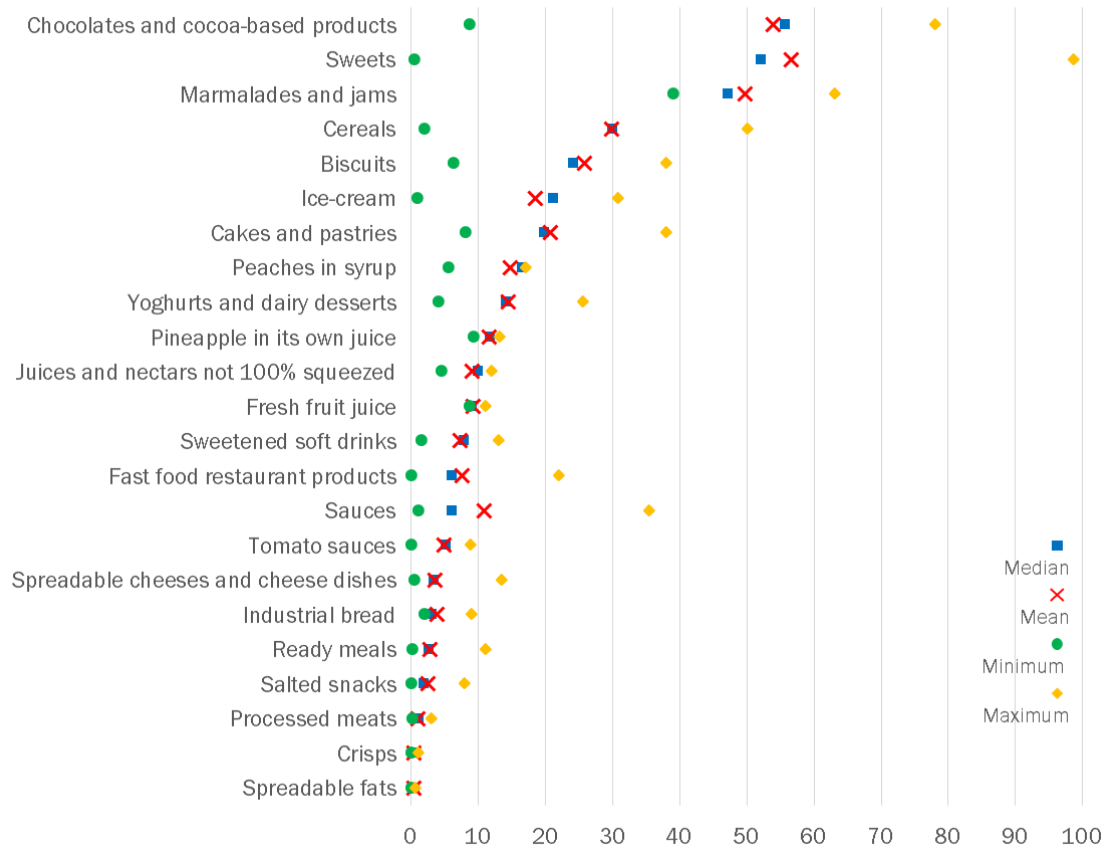


Table 9. Quantity of sugar (g/100 g of product) in food.

	Mean	SD	Median	Minimu	Maximu
Salted snacks	2.5	2.4	1.8	0.0	7.9
Crisps	0.5	0.3	0.5	0.0	1.0
Cakes and pastries	20.8	8.9	19.7	8.0	38.0
Biscuits	25.9	6.5	24.0	6.3	38.0
Industrial bread	3.8	1.6	3.0	2.0	9.0
Sauces	10.9	9.7	5.9	1.0	35.4
Tomato sauce	4.9	2.8	5.0	0.0	8.8
Spreadable fats	0.4	0.2	0.5	0.0	0.6
Ice-cream	18.5	7.6	21.0	0.9	30.8
Yoghurts and dairy desserts	14.5	4.2	14.0	4.0	25.6
Ready meals	2.8	1.8	2.6	0.2	11.0
Chocolate and cocoa-based products	53.9	16.1	55.5	8.7	78.0
Cereals	29.9	10.3	29.8	2.0	50.0
Processed meats	1.1	0.7	1.0	0.1	3.0
Spreadable cheeses and cheese dishes	3.6	2.7	3.3	0.5	13.4
Peaches in syrup	14.8	4.0	16.4	5.5	17.0
Pineapple in its own juice	11.6	1.3	11.7	9.2	13.1
Marmalades and jams	49.8	6.2	47.0	39.0	63.0
Sweets	56.6	27.8	52.0	0.4	98.6
Fast food restaurant products	7.6	6.7	6.0	0.0	22.0
Sweetened soft drinks	7.3	3.5	7.7	1.5	13.0
Fresh fruit juice	9.3	1.0	8.9	8.6	11.0
Juices and nectars not 100% squeezed	9.1	2.6	9.9	4.4	12.0

Graph 11. Sugar content.g/100 g of product.



Graph 12. Proportion of sugar. g of sugar x 100/g of carbohydrates.

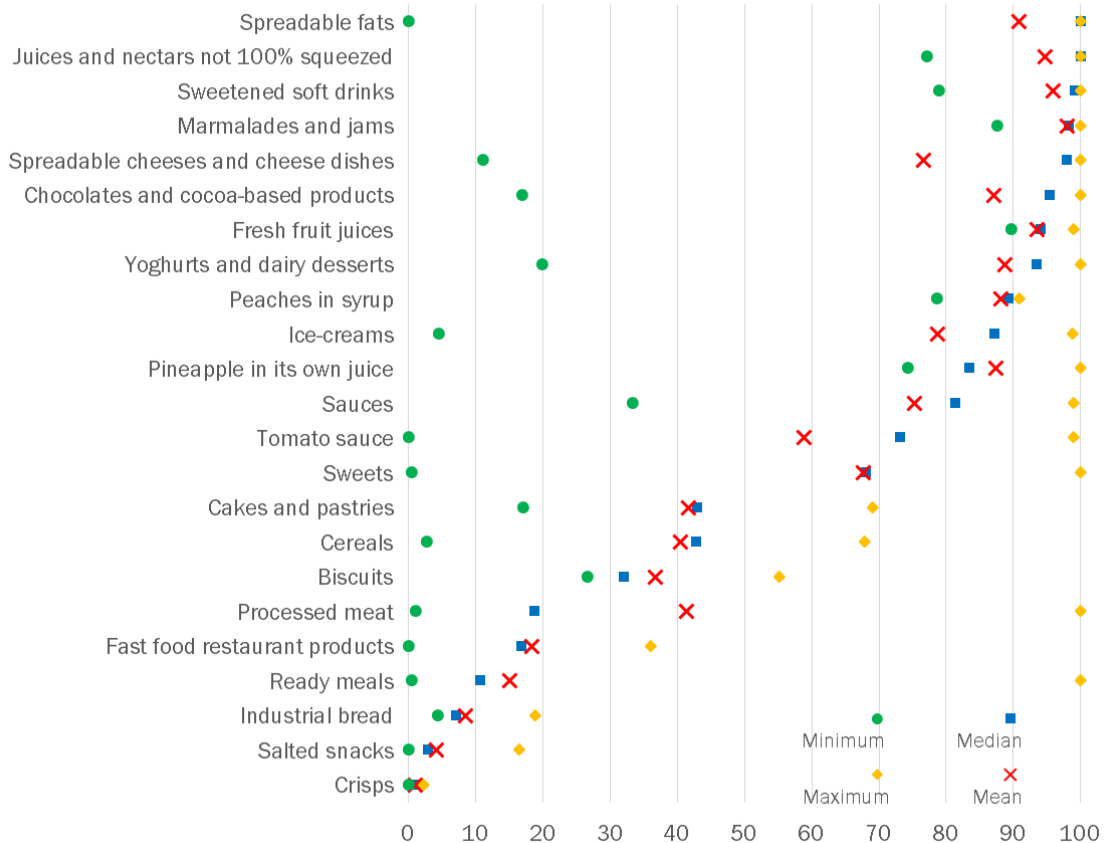


Table 10. Quantity of proteins (g/100 g of product) in food.

	Mean	SD	Median	Minimu	Maximu
Salted snacks	7.3	2.1	6.8	3.6	10.7
Crisps	6.5	0.8	6.7	5.2	7.7
Cakes and pastries	6.3	1.2	6.4	4.0	9.0
Biscuits	6.4	1.1	6.6	2.3	8.0
Industrial bread	9.2	0.5	9.0	8.1	10.0
Sauces	1.1	0.7	1.1	0.0	3.0
Tomato sauce	1.3	0.3	1.4	0.4	1.8
Spreadable fats	0.6	0.4	0.5	0.0	1.8
Ice-cream	2.6	1.3	2.6	0.1	6.5
Yoghurts and dairy desserts	3.9	2.2	3.3	1.4	16.0
Ready meals	8.5	2.2	8.2	4.5	13.0
Chocolate and cocoa-based products	6.3	1.6	6.0	4.0	11.7
Cereals	7.1	1.4	6.8	4.5	10.0
Processed meats	15.0	6.1	12.0	8.0	27.0
Spreadable cheeses and cheese dishes	11.5	6.5	10.6	2.8	25.0
Peaches in syrup	0.4	0.2	0.4	0.0	0.6
Pineapple in its own juice	0.4	0.1	0.4	0.0	0.5
Marmalades and jams	0.5	0.1	0.5	0.0	0.7
Sweets	2.0	1.8	2.0	0.0	5.4
Fast food restaurant products	24.8	11.4	22.5	10.0	49.0
Sweetened soft drinks	0.0	0.0	0.0	0.0	0.1
Fresh fruit juice	0.6	0.1	0.6	0.4	0.7
Juices and nectars not 100% squeezed	0.5	0.2	0.5	0.2	0.8

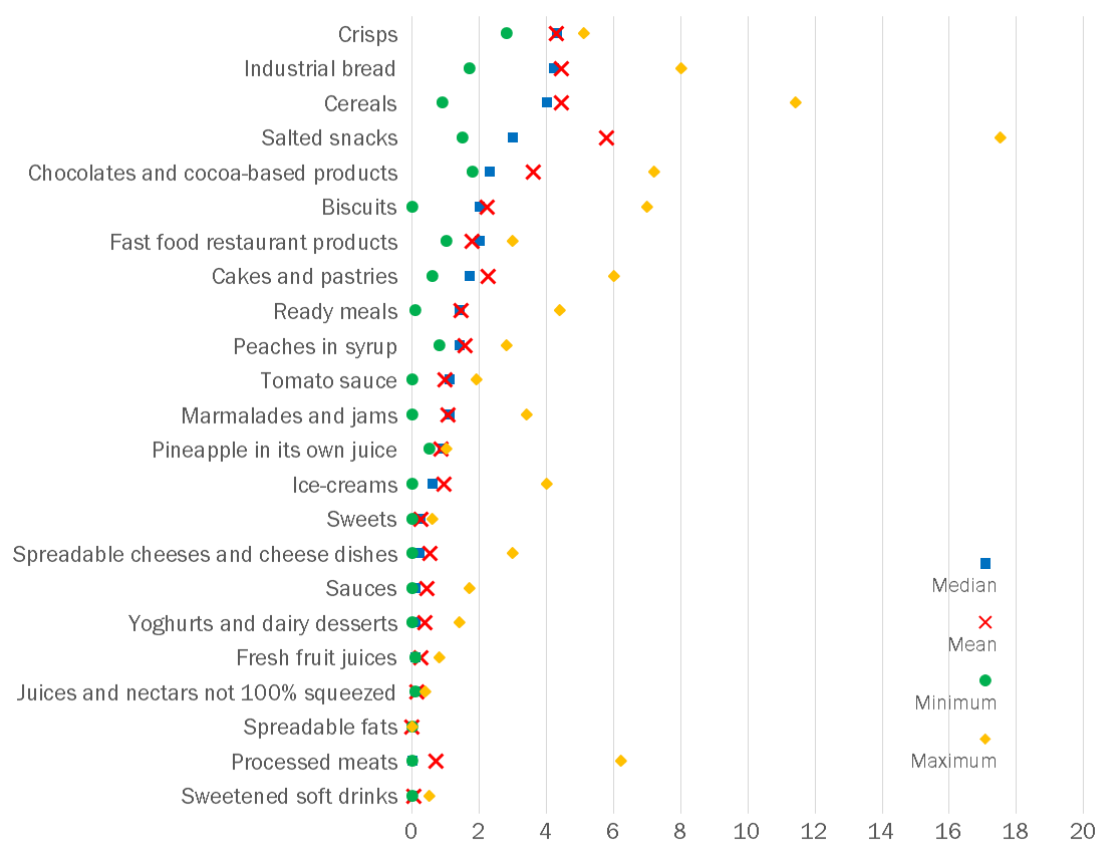
Graph 13. Protein content .g/100 g of product.



Table 11. Quantity of dietary fibre in food .g/100 g of product.

	Mean	SD	Median	Minimu	Maximu
Salted snacks	5.8	5.1	3.0	1.5	17.5
Crisps	4.3	0.7	4.3	2.8	5.1
Cakes and pastries	2.3	1.4	1.7	0.6	6.0
Biscuits	2.2	1.5	2.0	0.0	7.0
Industrial bread	4.5	2.0	4.2	1.7	8.0
Sauces	0.4	0.7	0.1	0.0	1.7
Tomato sauce	1.0	0.6	1.1	0.0	1.9
Spreadable fats	0.0	0.0	0.0	0.0	0.0
Ice-cream	0.9	1.0	0.6	0.0	4.0
Yoghurts and dairy desserts	0.4	0.5	0.1	0.0	1.4
Ready meals	1.5	0.9	1.4	0.1	4.4
Chocolate and cocoa-based products	3.6	2.2	2.3	1.8	7.2
Cereals	4.5	2.5	4.0	0.9	11.4
Processed meats	0.7	1.7	0.0	0.0	6.2
Spreadable cheeses and cheese dishes	0.6	0.8	0.2	0.0	3.0
Peaches in syrup	1.6	0.9	1.4	0.8	2.8
Pineapple in its own juice	0.9	0.2	0.9	0.5	1.0
Marmalades and jams	1.1	0.8	1.1	0.0	3.4
Sweets	0.3	0.3	0.3	0.0	0.6
Fast food restaurant products	1.8	0.8	2.0	1.0	3.0
Sweetened soft drinks	0.1	0.2	0.0	0.0	0.5
Fresh fruit juice	0.3	0.4	0.1	0.1	0.8
Juices and nectars not 100% squeezed	0.2	0.1	0.1	0.1	0.4

Graph 14. Dietary fibre content g/100 g of product.



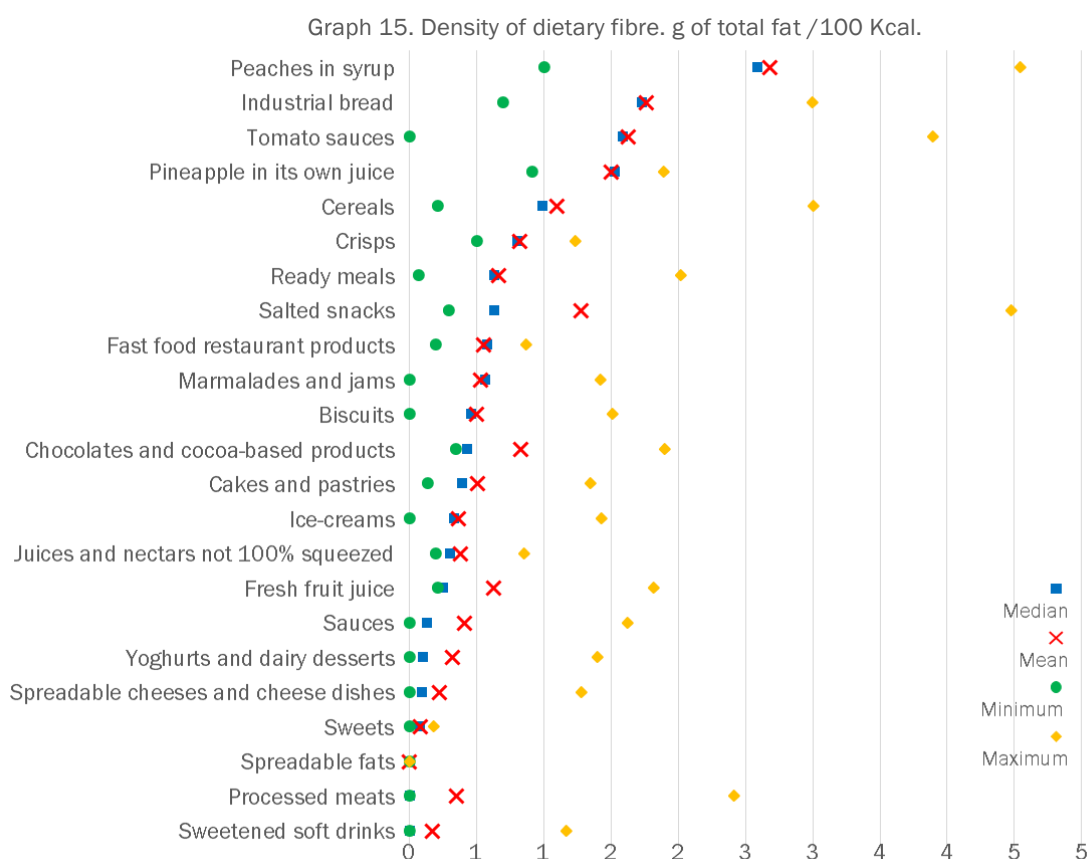
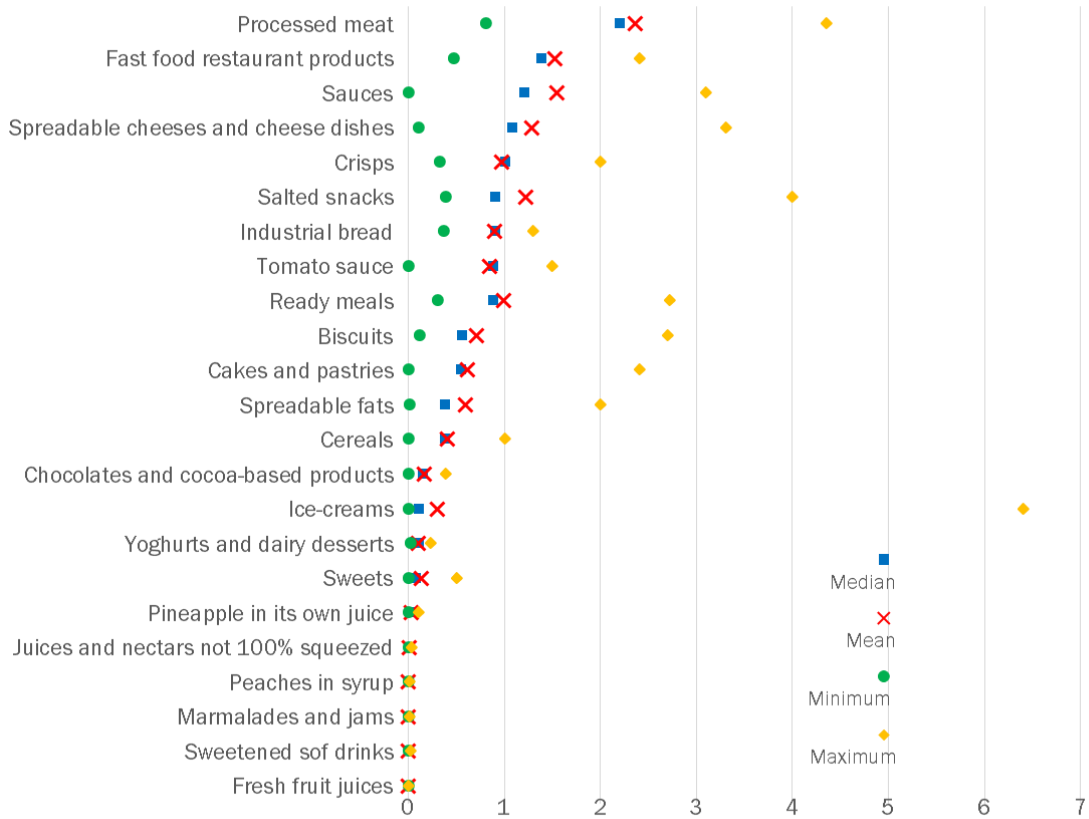


Table 12. Quantity of salt in food .g/100 g of product.

	Mean	SD	Median	Minimu	Maximu
Salted snacks	1.2	0.9	0.9	0.4	4.0
Crisps	1.0	0.5	1.0	0.3	2.0
Cakes and pastries	0.6	0.5	0.5	0.0	2.4
Biscuits	0.7	0.6	0.6	0.1	2.7
Industrial bread	0.9	0.3	0.9	0.4	1.3
Sauces	1.5	0.8	1.2	0.0	3.1
Tomato sauce	0.8	0.4	0.9	0.0	1.5
Spreadable fats	0.6	0.6	0.4	0.0	2.0
Ice-cream	0.3	1.0	0.1	0.0	6.4
Yoghurts and dairy desserts	0.1	0.1	0.1	0.0	0.2
Ready meals	1.0	0.6	0.9	0.3	2.7
Chocolate and cocoa-based products	0.2	0.1	0.2	0.0	0.4
Cereals	0.4	0.3	0.4	0.0	1.0
Processed meats	2.4	1.0	2.2	0.8	4.4
Spreadable cheeses and cheese dishes	1.3	0.9	1.1	0.1	3.3
Peaches in syrup	0.0	0.0	0.0	0.0	0.0
Pineapple in its own juice	0.0	0.0	0.0	0.0	0.1
Marmalades and jams	0.0	0.0	0.0	0.0	0.0
Sweets	0.1	0.2	0.1	0.0	0.5
Fast food restaurant products	1.5	0.7	1.4	0.5	2.4
Sweetened soft drinks	0.0	0.0	0.0	0.0	0.0
Fresh fruit juice	0.0	0.0	0.0	0.0	0.0
Juices and nectars not 100% squeezed	0.0	0.0	0.0	0.0	0.0

Graph 16. Salt content .g/100 g of product.



DISCUSSION

This paper has studied the nutrient content of almost 600 foods marketed in Spain in 2014, according to the information given in the nutritional labelling.

Nutritional labelling is an essential element of support for the consumer when planning their daily diet, and therefore the information it contains must be as accurate, clear and complete as possible.

Some comments on this study are required.

Firstly, regarding the selection of products. The foods analysed were selected from a list taken from a study conducted by the AECOSAN in 2010. This selection was based on market criteria analysing products with a wide national distribution, both own brand and retailer brands.

The grouping of food into different families is a factor which is not without difficulties, and it was sometimes difficult to define the groups. In doing so, there is always a risk that some groups are more heterogeneous. Nevertheless the benefits of grouping are considered to be greater, as otherwise, it would not be possible to obtain estimates of nutrient content other than at individual level. This study has used the division in groups already used in the previous AECOSAN study, and all the products were revised to ensure that each one was included in the most suitable group or family.

Another relevant aspect is the role played by the quantity of product normally consumed in each of the groups, or the size of the portion. There are huge differences in these quantities, therefore in the tables and graphs of content for each nutrient, it is necessary to consider the size of a normal portion. The most notable case is the difference between solid and liquid foods. In the case of liquid food, the normal portion sizes vary between 200 and 330 ml. It is difficult to find portion sizes equivalent to those of the liquids among the solids. Therefore, in the tables and graphs of energy content, the results have been given separately, for liquids and solids. Perhaps the ideal would be to present the results by portion size, but until there are agreed values for this portion size, which is not easy to establish, it has been decided to present the nutrition quantities per 100 g of product.

The results have been presented using summary measurements, arithmetic mean and standard deviation, median, minimum and maximum. In the graphs, the groups of food have been listed in ascending order of nutrient quantity, using the median. In this way, if there is a product with a very low or very high value, this has a lower influence in the median than on the mean, and presents a more realistic picture of the situation.

Nutritional labelling, as already mentioned, is a tool of great importance for planning diets, and being able to determine the healthiest option. In addition, knowledge of the composition of the food through the labelling allows regular studies to be carried out in order to assess the changes over time in the product formulations, with the advantage of lower costs than through laboratory studies.

In a global context of improvement of the general nutritional quality of food, and with numerous reformulation activities in different nutrients, including salt, fats and sugar, the nutritional information becomes of special relevance.

