CONSENSUS DOCUMENT ON FOOD IN EDUCATIONAL CENTRES

This document is for use in any kind of educational centre where food is supplied to the pupil body.

This document was approved by the Spanish Health System's Inter-Territorial Board on the 21 July 2010

Prior to its approval it was revised by the following bodies:

Scientific societies that are part of the Spanish Federation of Nutrition, Food and Diet Societies (FESNAD):

- The Association for Graduates in Nutrition and Dietary Nursing (ADENYD).
- Spanish Association of Dieticians and Nutritionists (AEDN).
- Spanish Association of Doctors and Graduates in Food Science and Technology (ALCYTA).
- Spanish Society of Dietary and Food Science (SEDCA).
- Spanish Society of Endocrinology and Nutrition (SEEN).
- Spanish Society for Gastroenterology, Hepatology and Paediatric Nutrition (SEGHNP).
- Spanish Society of Nutrition (SEN).
- Spanish Society of Basic and Applied Nutrition (SENBA).
- Spanish Society of Community Nutrition (SENC).
- Spanish Society of Parenteral and Enteral Nutrition (SENPE).
- Spanish Society for the Study of Obesity (SEEDO).

The Spanish Nutrition Foundation (FEN).

The parents associations CEAPA & COFAPA.

The Spanish Federation of Social Caterers (FEADRS).

The Spanish Association of Persons with Food and Latex Allergies (AEPNAA).

The Spanish Federation of Celiac Associations (FACE).

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1- Justification and legal framework

The current and future health and wellbeing of the school-age population is profoundly conditioned by the type of food that they eat and by maintaining a healthy weight. According to the World Health Organisation (WHO) in their Global School Health Initiative, the educational centre is a key place where children can gain theoretical and practical knowledge about health and nutrition due to the amount of time they spend there. Moreover, it can be one of the main pillars in the prevention of obesity, helping bring about a change in unsuitable eating habits that are becoming entrenched in today's society.[1] As well as being an important factor for parents to consider when choosing where to enrol their child, school meal times play a significant social and formative role as it is an integral part of the life and organisation of an educational centre, so much so that its planning, development, and assessment are part of overall yearly planning.

Article 2 of the Organic Law of Education 2/2006 dated 3 May, states that establishing a healthy lifestyle and taking part in physical exercise and sport must be set as a goal for the Spanish educational system to aim towards. Article 80.1 establishes that, when working towards exercising equal rights to education, public administrational bodies should develop alternative options for deprived individuals, groups and geographical locations and provide the financial resources and support for them. Article 82 refers to equal opportunities for rural communities where it specifies that the child population in these types of areas could be enrolled for basic education in a town near to where they live so as to guarantee quality of teaching. The educational bodies in these cases would also provide free school transport services, and where required, a dining hall and boarding school services.

The legal framework that regulates the school dining hall service is set out in the Spanish Ministry for Education and Science's Order dated 24 November 1992 (Official State Bulletin BOE 8/12/92), under which school dining halls are regulated. This document was partially modified by the Order dated 30 September 1993 (Official State Bulletin BOE 12/10/93). There are also regional regulations which control this service, and deal with management and organisational matters. This regulation covers a wide variety of subjects and it provides a detailed description of hygiene and health aspects, and the way that they are managed, organised and implemented. However, it is important to incorporate recommendations regarding nutritional aspects which encourage healthy eating habits and which pupils can take with them through life. Educational aspects which can help to develop healthy habits together with the family should also be taken into consideration.[2,3]

The plenary session of the Inter-territorial Council of the Spanish National Health System met on the 29 June 2005 and agreed a series of recommendations for authorities and institutions involved in managing, organising and implementing school dining halls, with the aim of offering nutritionally balanced diets.[4] Following this, on 16 December 2008, during the General Education Council, the Ministry for Education agreed to sign up to this initiative. This consensus document aims to develop these proposals by incorporating nutritional recommendations for school meals that include recommended nutritional daily intake values, by providing information for families, tending to special requirements and by developing criteria for offering healthy options in vending machines, canteens and kiosks in educational facilities.

2- The objectives of a school dining hall

In addition to teaching, another education service provided in an educational centre is the dining hall. It should strive to teach pupils about the following aspects:

- **Health, hygiene and diet:** aimed towards developing and reinforcing healthy eating habits, rules for good behaviour and the correct usage and care of dining hall equipment.
- **Responsibility:** involving the pupils in tasks, events and projects that take place in the dining halls in accordance with their age and educational level.
- **Free time:** planning free-time and hobby-type activities which contribute to the development of personalities and which encourage social and cultural habits.
- **Coexistence:** encouraging feelings of companionship and respect, education and tolerance amongst the members of the school community, in a suitably stable and social environment.

3- Nutritional conditions for planning school meals

The quantity and quality of food provided in meals for school communities should satisfy the nutritional needs of the population in question. It is important to keep in mind that those of school age are undergoing physical growth and development. The lunchtime meal should provide a third of the daily energy required, the quantity depending on the age group of the school community, as can be seen in table 1.

Table 1. Recommended daily energy intake and the proportion of energy that a lunchtime meal should provide, across the different age groups of the school population (Food and Nutrition Board. Institute of Medicine of the National Academies, 2005). [5]

POPULATION	AGE years	ENERGY kcal/day	35% ENERGY kcal/day
Boys	3-8	1742	610
Girls	3-8	1642	575
Boys	9-13	2279	798
Girls	9-13	2071	725
Boys	14-18	3152	1103
Girls	14-18	2368	829

To achieve these energy levels and to provide a varied and balanced meal, school meal programmes should consider the intake frequency of different food groups, as set out in Annex I. In order to ensure that these meals adhere to these recommendations, regional authorities should process relevant assessment and evaluation mechanisms.

The portions served on each plate should be proportional to the particular age group. Annex II shows the approximate measures of the recommended portions for boys and girls of school age.

4- Organisation of dining hall services

4.1- Proportion of space per pupil/diner

The proportion of space per pupil in dining hall facilities is established in the opening licence document, considering the usable surface area and the dimensions of emergency exits. All this is inspected and controlled by the municipal district, as it is the administrative body responsible for granting this license.

4.2- Duration of mealtimes

Each sitting should be no less than thirty minutes, to ensure that each pupil has enough time to enjoy their meal in a relaxed manner. This duration can be increased if it is deemed necessary for younger age groups and for pupils with special needs.

4.3- Regulation of school meals

All school meals must always be regulated by health professionals[6] with accredited training in human and dietary nutrition. This is to guarantee that the meals are varied, balanced and adapted to the nutritional needs of each age group, in accordance with the nutritional recommendations specified in point 3.

4.4- Qualifications and training of the lunchtime supervisory staff

So that the dining hall can operate correctly, enough staff must be contracted to care for and supervise pupils, depending on the number of diners and their educational level and in accordance with the following proportions:

- Infants (three-year-olds): one monitor for every 15 diners or an additional adult for every 8 pupils thereon
- Infants and first stage of primary education(4-8 year olds): one monitor for every 20 diners or an additional adult for every 10 pupils thereon

- Second and third stage primary education and secondary education (9-16 year olds): one monitor for every 30 diners or an additional adult for every 15 pupils thereon

These proportions can be modified and adapted in case of children with special needs.

The staff in charge of caring for the pupils shall be suitably qualified to carry out their role. They must understand child education and the promotion of healthy habits and they will ensure that the meal is served in a suitably social and stable environment.

Teaching and lunchtime staff are to be given specific training so as to ensure understanding of food intolerances or allergies, including allergy to latex. This will enable them to detect and therefore prevent any potential immediate or long-term health problems that may arise, relating to nutrition, ensuring that these pupils are safe at all times.[4]

5- Pupils with special dietary requirements

Where the facilities and organisational conditions allow, special adapted meal plans shall be devised for those educational centres with pupils with allergies or food intolerances diagnosed by specialists, and who have the corresponding medical certificates to show that they cannot eat certain foods which would be detrimental to their health.[7]

If the educational centre does not have the appropriate organisational conditions or facilities available to prepare special meals, or if they would result as being unaffordable, adequate refrigeration and heating units shall be supplied, being used exclusively to store and prepare the food that these pupils can bring from home. In these cases, if the family is not eligible for free meals, it shall contribute a proportional part of the costs relating to any special care and supervision services provided to their child by lunchtime staff.

6- Information for families

Educational centres should provide the families, tutors and lunchtime staff, with a monthly meal plan, which includes meals for special dietary requirements. This must be as clear and detailed as possible, so that families can adequately coordinate their evening meals.

7- Inspection and follow-up

Health authorities of each region are to ensure that all the nutritional criteria outlined in this document are adhered to with regard to the variety and food intake frequency provided by school meal plans, and with regard to the foods on offer in vending machines, canteens and kiosks in educational centres.

8- Vending machines, canteens and kiosks

The food on offer in vending machines, canteens, kiosks or similar facilities within educational centres must comply with the nutritional recommendations for the school-age population. They must therefore help pupils adopt healthy eating habits and encourage a healthy eating environment in educational centres. However, the products usually offered at these points of sale contain excess fat, sugar or salt, which makes it harder for children to maintain a balanced and therefore healthy diet. The European Parliament resolution of 28 September 2008 on the White Paper on nutrition, overweight and obesity-related issues has requested Member States to ensure that there is a healthy choice of food in vending machines in educational centres. It specifically encourages "a move away from the sale of foods and beverages high in fat, salt or sugar and or poor nutritional value." The Spanish Senate's study into child and youth obesity in Spain recommends that such vending machines sell healthy products and that the advertising of less healthy foods be avoided.[8]

Amongst the scientific communities involved in the field of food and nutrition there is also a consensus with regard to limiting the intake of some foods and drinks that when consumed in excess, are considered unhealthy because of their high energy content (high fat and/or sugar content), high salt content, and at the same time, low fibre, protein, vitamin or mineral content.[9] For example, soft drinks that are high in simple sugars contain a lot of calories, but do not satisfy the consumer's hunger. When consumed over a long period of time body weight can increase.[10] Additionally, the WHO recognises that there is a link between obesity and the intake of foods with a high energy content and which are low in nutrients.[11] However, the intake of such foods amongst children is high and represents a large part of their daily intake of energy.[12] To ensure that the school-age population has a suitably balanced energy intake which helps them to avoid being overweight or obese, intake of such products must be limited and instead healthy options offered, which means removing food and drink with a low nutritional value from educational centres. Soft drinks, sweets, ice lollies, chocolate and salted snacks are all in this category.

In accordance with these criteria for limiting the fat, sugar and salt content, the food and drinks distributed in educational centres should comply with the following nutritional criteria per packet or portion size:

- A maximum energy value of 200 kilocalories.
- A maximum of 35% of these kilocalories should come from fats. For a serving with less than 200 kilocalories, this is equivalent to a maximum content of 7.8 grams of fat.[†]
- A maximum of 10% of the kilocalories should come from saturated fats. For a serving with less than 200 kilocalories, this is equivalent to a maximum content of 2.2 grams of saturated fats.[†]
- The absence of trans fatty acids, except for those naturally found in meat and dairy products.
- A maximum of 30% of kilocalories should come from total sugars. For a 200 kilocalories serving, this is equivalent to a maximum content of 15 grams of sugar.[‡]

- A maximum of 0.5 g of salt (0.2 g of sodium).
- They should be free of artificial sweeteners.
- They should be free from caffeine or other stimulants, except those naturally present in cocoa.

† This limit is not applied to whole milk and yoghurts, or to nuts with no added fats as these have fats that are naturally present. They are foods with a high nutritional value and should therefore be readily available in schools. Although nuts are included in this section, their serving must comply with the criteria that correspond to the maximum energy intake value (set by the size of the serving) and salt and sugar content.

‡ This limit does not apply to fruit and vegetables, (processed or otherwise), fruit juices or concentrated juices that do not have any added sugar, as these have sugars that are naturally present. This limit does not include the sugar that is naturally present in milk or dairy products (lactose) which corresponds approximately to 4.8 g/100 ml.

The purpose of these criteria is twofold: firstly, to encourage pupils to eat and drink healthily (fruit, vegetables and calcium and fibre rich foods); secondly, to limit the over-intake of certain nutrients to ensure that recommended daily intake is not exceeded. On the other hand, it should be noted that these criteria have been revised by the Spanish Federation of Nutrition, Food and Diet Societies (FESNAD) and are based on those criteria established by the American Institute of Medicine of the National Academy of Sciences[13] and on the limits specified by the Food Standards Agency for defining high fat, sugar or salt content in foods.[14] Arguments justifying these criteria can be found in Annex III.

These limits can only be applied to packaged products that are distributed at points of sale, whether they are individually wrapped or in boxes, and not to those that are not packaged (sandwiches for example). The individual or company responsible for purchasing supplies and providing service for vending machines, canteens and kiosks must ensure that the products available in these facilities comply with these criteria by checking the nutritional labelling where present, or by requesting this information from the manufacturers or suppliers. The following table has been designed to facilitate this checking process, where the values referred to above, per package or serving equate to the following figures per 100 g or 100 ml:

NUTRITIONAL CRITERIA FOR FOOD AND DRINK			
Energy or nutrient	Content per portion	Content per 100 g*	Content per 100 ml*
Energy	≤200 kilocalories	≤400 kilocalories	≤100 kilocalories
Total Fat	≤7.8 g	≤15.6 g	≤3.9 g
Saturated fats	≤2.2 g	≤4.4 g	≤1.1 g
Trans fatty acids	≤0.5 g	≤1 g	≤0.25 g
Sugars	≤15 g	≤30 g	≤7.5 g
Salt/sodium	≤0.5 g salt/200 mg sodium	≤1 g salt/400 mg sodium	≤0.25 g/100 mg sodium

* A packet or portion is 50 g for solid foods and 200 ml for drinks, which are the most common measurements used on the market.

Although not an exhaustive list, the foods and drinks that can be sold in vending machines, canteens and kiosks in educational centres, in accordance with the established nutritional criteria are as follows:

- **Bottled water** - varieties acknowledged by legislation. Water-based drinks that are classed as soft-drinks and which contain flavourings and/or sweeteners, are not classed as water in this case. However, it is recommended that there should be free access to water fountains or water dispensers.

- **Milk** - in any of its forms (whole milk, skimmed, semi-skimmed) or preservation method.

- **Dairy products (fermented milk, yoghurts, milk shakes, etc)** made from whole, skimmed or semi-skimmed milk that do not contain more than 12.3 g of sugar/100 ml (4.8 g lactose + 7.5 g added sugars) or 24.6 g sugar (9.6 g lactose + 15 g added sugars) per 200 ml carton/packet.

- **Low fat cheeses** that do not exceed the established levels for salt.

- **Fresh fruit - whole or minimally processed,** which do not contain added sugars.

- **Fruit Juices –** natural juices and those made from concentrate that do not have added sugars. Fruit nectars or fruit and milk drinks with added sugar or artificial sweeteners are not included in this category.

- **Vegetable-based drinks** that contain at least 50% vegetables and do not have any added sugars or artificial sweeteners.

- **Breakfast cereals and cereal bars** as long as they comply with the established criteria for fats, sugars and salt.

- **Biscuits and cakes** - as long as they comply with the established criteria for sugar and fat content (especially saturated fat).

- **Nuts** which do not contain added sugars or fats (and are not fried or toasted in oil) and whose salt content does not exceed the established limit. The serving size should not exceed the maximum energy value.

- **Ice cream** - preferably made from milk, as long as they comply with the criteria established for fat and sugar content.

- **Sandwiches** as long as they comply with the criteria established for fat, salt and sugar content.

- **Rolls** - preferably made with brown bread. Most of them should be made at the point of sale and therefore do not have a label, but as they are mainly made up of bread, they generally do not contain a high level of fats, sugars or salts.

- **Bread products** (breadsticks, toasted bread, etc.) as long as they comply with the criteria established for fat, salt and sugar content.

Given that vending machines are a self-service system and can be used unlimitedly, with no adult supervision, there is the risk that younger pupils could misuse them and consume too much of a particular foodstuff between meals, thereby reducing their intake of staple foods and causing their diet to become unbalanced. For this reason, vending machines should not be installed in areas where infants, primary pupils or special education pupils have access. In secondary education areas, vending machines must not show advertisements as they can influence pupils to choose certain food or drinks.

Both of these restrictions are also applied to those special extra-curricula educational centres (music and dance schools, art schools, official language schools, etc.) depending on pupils' school level/age as mentioned above.

ANNEX I

RECOMMENDED FREQUENCIES OF DIFFERENT FOOD GROUPS

FOOD GROUPS	WEEKLY FREQUENCY
Starter/First dish	
Rice	**1**
Pasta*	**1**
Pulses	**1-2**
Vegetables (including potatoes)	**1-2**
Main dish	
Meats	**1-3**
Fish	**1-3**
Eggs	**1-2**
Side dishes	
Mixed salads	**3-4**
Other side dishes (potatoes, vegetables, pulses, etc.)	**1-2**
Desserts	
Seasonal and fresh fruit	**4-5**
Other desserts (preferably yoghurt, fresh cheese, curd, nuts, natural fruit juices, etc.)	**0-1**

* This does not include pizza because, apart from some exceptions, they are considered as pre-prepared meals.

1- Different food groups

Cereals and derivatives. Cereals should form the basis of our diet. This groups includes rice, pasta, bread and other less frequent varieties such as couscous, polenta, etc. which make up part of some meals. Wholegrain foods are richer in fibre and other nutrients than their refined varieties. Therefore the use of wholegrain varieties should be incorporated as much as possible. Bread should be a daily component of the school menu.

Vegetables (including potatoes). It is advisable to eat foods from this group every day. The best way to get the most from their vitamins is to eat them raw, for example in salads which can be offered as a starter or side dish. Families shall be informed as to the salad or vegetable dish on offer ("Salad with *X*", "*X* Salad", "*X* stew", etc.)

Potatoes are often accompaniments to vegetables in the starters (stews, broths, purees, etc.). When they are used in side dishes they should not be fried if the other component of the dish has been prepared in the same way.

Fruit. The best way of getting the most nutritional value from fruit, and which is most accepted by pupils, is to eat seasonal fruit that is ripe and preferably raw. Also, there should be a wide variety of fruit on offer so as to avoid monotony, rotating the options on a weekly basis, changing how they are served and using preparation methods to make them easily accessible, especially for 3 to 5 year-olds. Priority should be given to fresh fruit (four or more helpings a week) instead of fruit-products such as syrups, juices, pre-processed fruit puree and other options that have a higher sugar content and should only feature on the dessert menu a maximum of once a week.

Dairy products. Milk and its by-products (yoghurt, cheeses, and curds) are an important source of protein and calcium. Yogurt should be offered over other dairy products (flan, custard, etc.). However, it should only be offered for dessert once a week and should only substitute fruit-products (syrups, jelly, etc.). Portions of cheese and other dairy products can be incorporated into starters and main dishes.

Pulses. The intake of one helping of pulses is recommended once or twice a week, aiming to ensure a variety of options (chickpeas, lentils, beans, etc.) and alternating preparation methods. Together with fruit and vegetables, pulses are one of the food groups that should be promoted in school meal, aiming to offer six portions a month.

Meats. Between one to three portions a week of meat are recommended. Priority should be given to less fatty cuts of chicken, turkey, beef, pork, rabbit or lamb (also providing options for different cultures). Meat dishes with the highest fat content (sausages, burgers, meatballs, etc.) should only be included in the meal plan once a week, as long as they are not accompanied with fried side dishes.

Fish and seafood. Fish should be on the menu one to three times a week, though products with a low fish content such as cod fritters, calamari rings or fish fingers are not considered as one helping. Six portions of fish should be offered a month, so as to ensure a sufficient intake, with a wide variety of choices and alternating between oily fish (fatty) and white fish (lean). Varied cooking techniques should also be employed, avoiding the systematic incorporation of fried or battered options.

2- Other considerations

- Water should be the only drink to accompany meals
- Pre-cooked products should be limited (i.e. cannelloni, croquettes, pasties, pizzas, battered foods, foods in breadcrumbs, etc.) to a maximum of three times a month. Fried side dishes should be avoided as accompaniments.

- Fried foods should only be offered a maximum of twice a week as main meals and once a week as side dishes.

- The same cooking method should not be used for both starters and main dishes, or as a component of main dishes and its accompanying side dishes. Olive oil or sunflower oil with a high content of oleic acid are should be used for fried dishes.

- Extra virgin olive oil should be used for dressings.

- Salt should be used moderately in cooking and iodized salt is preferred, depending on each region's circumstances. Concentrated meat stocks or any product that contains enhanced flavours such as monosodium glutamate often have too much salt so their use should be limited, and when they are used, extra salt should not be added.

- Introducing ecologically produced foods in school meals could have advantages regarding sustainability and environmental protection. However, to date there is insufficient scientific evidence to guarantee that ecologically produced foods are nutritionally better or safer than conventional foods.[15]

- In cases where the pupils cannot have a certain type of food for cultural or religious reasons, an alternative shall be available which suitably covers their nutritional needs – as long as the organisational conditions and facilities allow for it, and it is economically viable.

- Latex gloves should not be used. This stops latex proteins being transferred from the gloves to the foods, as they can cause anaphylactic reactions in some people.[16]

ANNEX II

APPROXIMATE PORTION SIZES[17]

		3-6 years old		7-12 years old		13-15 years old		16-18 years old	
		Portion	Measure	Portion	Measure	Portion	Measure	Portion	Measure
DAIRY PRODUCTS	Cheese (portion)	25-30 g	1 thin slice	50-60 g	2 thin slices	50-60 g	2 thin slices	50-60 g	2 thin slices
	Milk (dessert)	100 ml	1 small glass or ½ glass	200 ml	1 glass	200 ml	1 glass	200 ml	1 glass
CEREALS, PULSES AND POTATOES	Pulses (main dish) (1)	30 g	2 tablespoons	60 g	4 tablespoons	60 g	4 tablespoons	90 g	6 tablespoons
	Pulses (side dish) (1)	15 g	1 tablespoon	30 g	2 tablespoons	30 g	2 tablespoons	30 g	2 tablespoons
	Potatoes (main dish) (1)	150-200 g	1 small potato	200-250 g	1 medium-sized potato	200-250 g	1 medium-sized potato	200-250 g	1 medium-sized potato
	Potatoes (side dish) (1)	90-100 g	1 small egg-sized potato	90-100 g	1 small egg-sized potato	190-200 g	1 small potato	190-200 g	1 small potato
	Rice, pasta (main dish) (2)	50-60 g	1 small dish	60-80 g	1 medium-sized dish	80-90 g	1 large dish	80-90 g	1 large dish
	Rice, pasta (soup) (2)	20-25 g	1 medium-sized dish	20-25 g	1 medium-sized dish	20-25 g	1 medium-sized dish	20-25 g	1 medium-sized dish
	Rice, pasta (side dish) (1)	20-25 g	1 tablespoon of rice 2 tablespoons of pasta	20-25 g	1 tablespoon of rice 2 tablespoons of pasta	20-25 g	1 tablespoon of rice 2 tablespoons of pasta	35-40 g	2 tablespoons of rice 4 tablespoons of pasta
	Bread – Baguette style (accompaniment)	30 g	1 small portion (three fingers long)	30 g	1 small portion (three fingers long)	60 g	1 medium portion (six fingers long)	60 g	1 medium portion (six fingers long)
	Bread - loaf style (accompaniment)	30 g	1 small slice	30 g	1 small slice	60 g	1 medium-sized slice	60 g	1 medium-sized slice

		3-6 years old		7-12 years old		13-15 years old		16-18 years old	
		Portion	Measure	Portion	Measure	Portion	Measure	Portion	Measure
VEGETABLES	Main dish	120-150 g	1 medium-sized plate[3]	120-150 g	1 medium-sized plate[3]	200-250 g	1 medium-sized plate[3]	200-250	1 large plate
	Side dish	60-75 g	1 small plate[4]	60-75 g	1 small plate[4]	120-150 g	1 medium-sized plate[4]	120-150 g	1 medium-sized plate[3]
MEATS AND BY-PRODUCTS, POULTRY, FISH AND EGGS	Fillet[(1)]	50-60 g	1 small fillet	80-90 g	1 small fillet	110-120 g	1 medium-sized fillet	110-120 g	1 medium-sized fillet
	Pork chops[(5)] Lamb ribs[(5)]	70-80 g 70-80 g	1 small chop 2 ribs	100-120 g 100-120 g	1 large chop 3 ribs	100-120 g 100-120 g	1 large chop 3 ribs	140-150 g 140.150 g	2 small chops 4 ribs
	Mince (meat balls, hamburgers) [(1)]	30-60 g	1 small plate	80-90 g	1 small plate	110-120 g	1 medium-sized plate	110-120 g	1 medium-sized plate
	Mince (with rice or pasta) [(1)]	15-20 g	1 tablespoon	20-30 g	1 heaped tablespoon	20-30 g	1 heaped tablespoon	20-30 g	1 heaped tablespoon
	Chicken (braised, roast) - net[(5)]	80-90 g	1 small chicken leg	150-160 g	1 small chicken leg	230-250 g	1 large chicken leg	300-320 g	1 large chicken leg or 2 medium-sized chicken legs
	Fillet of fish[(1)]	70-80 g	1 small fillet	100-120 g	1 small fillet	150-160 g	1 medium-sized fillet	150-160 g	1 medium-sized fillet
	Eggs	1 egg		1-2 eggs		2 eggs		2 eggs	
	Cured and cold meats[(1)]	25-30 g	1 thin slice cooked ham/Serrano ham 6 thin slices of chorizo/salami	25-30 g	1 thin slice cooked ham/Serrano ham 6 thin slices of chorizo/salami	25-30 g	1 thin slice cooked ham/Serrano ham 6 thin slices of chorizo/salami	25-30 g	1 thin slice cooked ham/Serrano ham 6 thin slices of chorizo/salami
FRUIT	Fresh fruit[(5)]	80-100 g	1 small piece of fruit	150-200 g	1 medium-sized piece of fruit	150-200 g	1 medium-sized piece of fruit	150-200 g	1 medium-sized piece of fruit

[(1)] Portions expressed in raw and net weight. [(2)] Portions expressed in raw weight. Measure estimated with cooked weight. In the case of soup as a main dish, the measure is expressed taking into consideration the cooked weight and the stock used. [(3)] In the case of mixed salad this refers to a large plate. [(4)] In the case of mixed salad this refers to a medium-sized plate. [(5)] Portions expressed in raw and net weight.

ANNEX III

JUSTIFYING USE OF VENDING MACHINES, CANTEENS AND KIOSKS IN EDUCATIONAL CENTRES

When establishing criteria to define healthy food, daily intake values should be used as a base as this approach acknowledges that an individual's health is conditioned by the intake of nutrients throughout the day and not just by the intake of foods and drinks on a individual basis. However, the foods on offer in vending machines, canteens and kiosks consist of products that are eaten on their own can not be classified as any of the main daily meals. The energy content and nutrients that are in them are rarely taken into consideration when balancing the daily food intake, and are considered as discretionary calories. Therefore, so that points of sale in educational centres can ensure that they offer healthy food, they must consider foods and drinks on an individual basis and establish nutritional criteria avoiding products with a high energy, fats, sugars and salt contents.

- Energy value. Recommended energy intake should be distributed over the day as such: 25% for breakfast (or 15% if it is a light breakfast and 10% for morning break), 35% for the lunch time meal, 10% for the afternoon snack and the remaining 30% for the evening meal.[18] Bearing this in mind and considering that the average energy requirements for pupils between 4 and 16 years are 2000 kilocalories a day,[5] the food on offer for the morning and afternoon breaks should not provide more than 10% of the total daily energy requirements; in other words, the foods and drinks that are served should not have more than 200 calories per packaged serving.

- Total fats and saturated fats. The Spanish population (including infants and youths) consume too many fats, particularly saturated fats.[19] A certain amount of fat must be consumed for essential fatty acid metabolism and so that fat-soluble vitamins can be absorbed, fats have a high energy concentration. A high intake of fats means a high calorie concentration which if not compensated for by a high level of physical activity, will lead to overweight and obesity issues. Additionally, there is sufficient scientific evidence linking diets that are high in saturated fats with an increased risk in cardiovascular disease.[11] Health organisations and authorities therefore recommend that fat intake should provide less than 35% of the total daily energy and that less than 10% of this should come from saturated fats.[9,20] For a packet or portion with 200 kilocalories, these percentages relate to a maximum of 70 kilocalories of total fats, of which a maximum of 20 calories should come from saturated fats. This is equal to a total fat content that is the same or less than 7.8 g and no more than 2.2 g of saturated fats.

  Nuts are a good source of fibre and unsaturated fatty acids, some of which are essential. Their presence in our diet helps control the level of triglycerides and cholesterol in blood. This is why they should be permitted in educational centres, even though they have a high fat content, which is mainly unsaturated. They do however have a high energy content and often have added salt and sugar. They can therefore contribute to an excessive intake of salt

and a high source of energy. With this in mind, they still must comply with maximum energy values criteria (depending on the portion size) and to the salt and sugar content criteria.

- Trans fatty acids. The intake of trans fatty acids- even low levels - is associated with an increased risk of cardiovascular disease: up to 23% when the energy content from trans fatty acids increases by 2% (which would equate to some 40 kilocalories in a person who consumes 2000 kilocalories a day).[21] This health threat shows evidence why foods with trans fatty acids should not be offered in educational establishments, allowing only fats that are found naturally in dairy and meat products (≤0.5 g per portion).

- Total Sugars. Sugar provides calories that are not accompanied by a significant quantity of micronutrients (vitamins, minerals and fibre). In this form, the high content of sugar increases the energy content of foods and therefore the total energy intake and the risk of overweight and obesity related issues.[9] The European Food Safety Authority (EFSA) recommends a daily intake of a maximum of 90 g of total sugars which corresponds to 18% of the total energy consumed.[20] This is in line with the WHO's recommended maximum intake of free sugars, which should not represent more than 10% of daily energy intake.[11] Taking these recommendations into consideration, the maximum content of total sugars should be 9 g per packet or portion. However, there are very few products on the market that actually comply with this criteria and it does not seem reasonable to leave educational centres completely un-stocked for morning and afternoon breaks. However, at the same time, a provisional limit should be set at 30% of energy values which will encourage producers to reduce the sugar content of food and drink, similar to what the American Institute of Medicine of the National Academy of Sciences has done.[13] For a maximum of 200 calories, this relates to 15 g of sugar per packaged/sold portion.

  Fruit and vegetables are excluded from this section given that the sugars in these products are accompanied by other high-valued nutrients such as fibre, vitamins, minerals and antioxidants. It is therefore greatly important for children to eat more of this food group, given the health advantages associated.

  Milk and dairy products are also excluded from these criteria because these products are the main source of calcium which is a nutrient required at all stages of life, but particularly during childhood and adolescence. It is during this stage of life that bones are developing and therefore higher intake is required.

- Salt. Although sodium is an essential element, it is generally consumed in excess by the Spanish population, normally in the form of salt, which is double that of health recommendations.[22] The link between an excessive salt intake and a higher risk of stroke or heart attack, shown by high blood pressure, is widely documented in scientific literature.[23] This is the reason why the WHO recommends a daily intake of less than 5 g of salt (2 g sodium),[11] which means that less than 0.5 g of salt (0.2 g of sodium) should be included in each packet or portion consumed (when considering the 10% mentioned above).

- Artificial sweeteners and stimulants. Food and drinks that are sold in vending machines, canteens and kiosks in educational centres must not contain artificial sweeteners, as these ingredients do not provide any nutritional value and do not help pupils adopt a healthy lifestyle. Due to their adverse effects, including introversion and physical dependency, these foods and drinks should also not contain caffeine or other stimulants, except for those naturally present - as in the case of cocoa.

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