 doi:10.1017/S1368980009005035

The Italian National Food Consumption Survey INRAN-SCAI 2005–06: main results in terms of food consumption

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Submitted 25 January 2008: Accepted 18 December 2008

Abstract

Objective: The current paper aims to present the main results of the Italian National Food Consumption Survey INRAN-SCAI 2005–06.
Design: A cross-sectional study was performed. Households were randomly selected after geographical stratification of the national territory. Food consumption was assessed on three consecutive days through individual estimated dietary records.
Setting: Italy.
Subjects: The final study sample comprised 3323 subjects (1501 males and 1822 females) aged 0·1 to 97·7 years belonging to 1329 households: fifty-two infants (0–2·9 years), 193 children (3–9·9 years), 247 teenagers (10–17·9 years), 2313 adults (18–64·9 years) and 518 elderly (65 years and above).
Results: Participation rate was 33 %. The mean ratio of estimated energy intake to estimated BMR was 1·41 in adults. Indicators of mean and high individual consumption are presented for fifteen large categories and fifty-one subcategories of foods and beverages, in the total population and in consumers, by age and sex categories. The overall consumption of fruit and vegetables was 418 g/d. The consumption of red meat was approximately 700 g/week, expressed as raw weight. Some specific aspects of the Italian food consumption pattern were confirmed: a large contribution from bread, pasta and pizza to cereals, from olive oil to fats and from wine to alcoholic beverages.
Conclusions: The database obtained from the survey will be the key reference for Italian food consumption during the coming years and will be utilized for a variety of purposes including the assessment of nutrient intakes and risk analysis.

Keywords
Food consumption
Italy
Dietary records

Food consumption patterns are changing rapidly in the Italian population. Important factors of change are the evolution of lifestyle, the availability of a large variety of new intensively advertised food products and the progressive ageing of the population. A steady increase of meals consumed away from home and of convenience foods has been observed[1]. The traditional Mediterranean diet, rich in plant foods, is being modified[2].

The availability of data collected at individual level in various sections of the population is crucial to characterize food consumption patterns. These data are needed to perform a number of research and surveillance activities in the area of consumer science, nutrition and food safety. Nationwide Italian food consumption surveys had been performed in 1980–84[3] and 1994–96[4]. The Italian Ministry of Agriculture funded the third national food consumption survey, named INRAN-SCAI 2005–06, to update current dietary information.

The current paper aims to present the main results of the Italian National Food Consumption Survey INRAN-SCAI 2005–06.

Methods

A cross-sectional survey was conducted on a random sample of the Italian population.

Sample

A target sample of 1300 households was considered with the aim of characterizing average food consumption in the four main geographical areas of Italy (North-West, North-East, Centre and South and Islands). The Census

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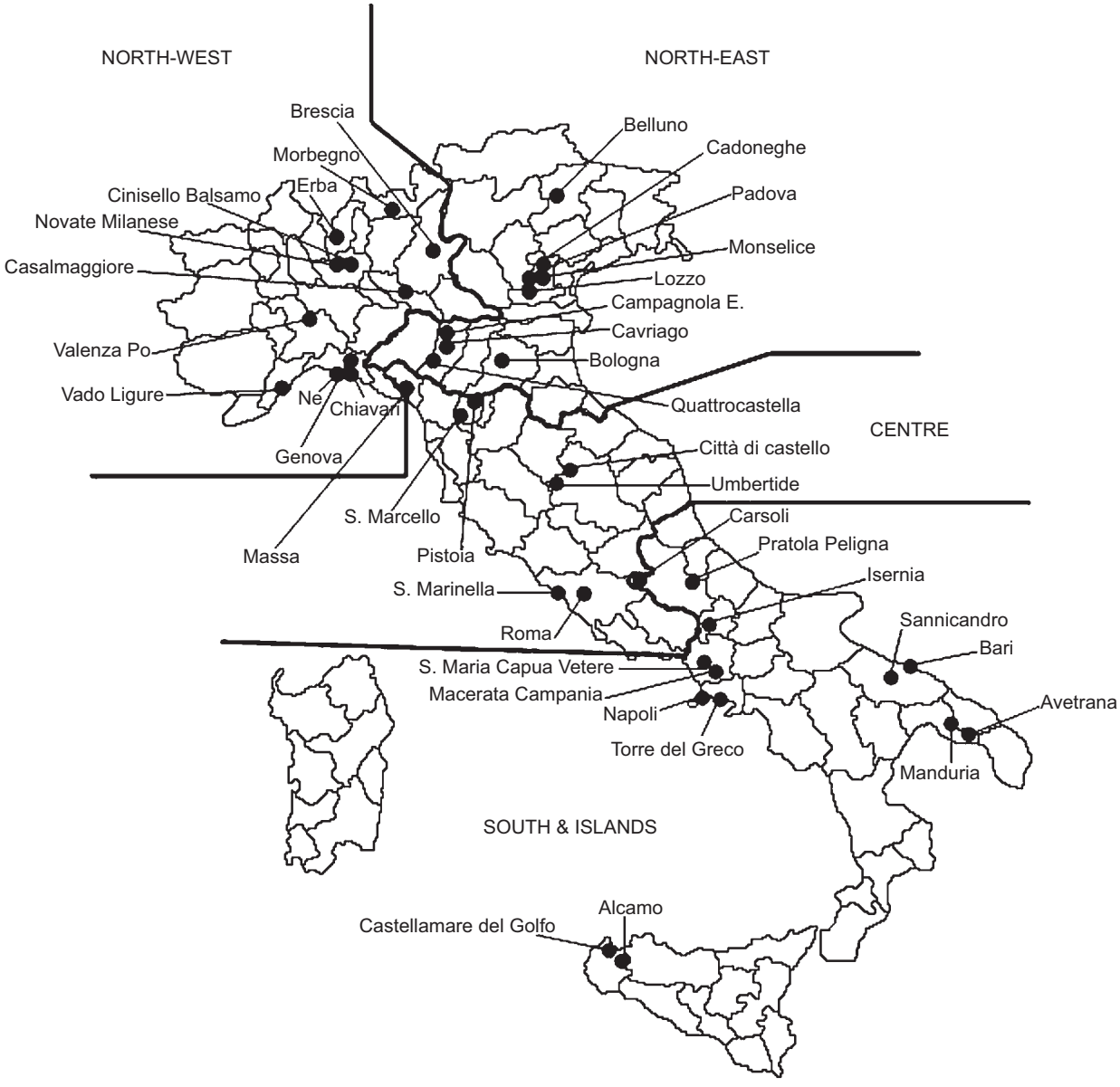

Fig. 1 Location of the forty municipalities and the twenty-three provinces randomly selected to represent the four main geographical areas of Italy: Italian National Food Consumption Survey INRAN-SCAI 2005–06

performed in 2001 by the Italian National Institute of Statistics (ISTAT)[5] was used for the multistage stratification of the sample into: (i) four geographical area strata; (ii) three provinces population size strata (low, medium and large); (iii) two municipalities population size strata (large–medium and small); and (iv) four household composition strata (one member less than 65 years of age, one member aged 65 years and above, two or three members, four or more members). A total of forty municipalities belonging to twenty-three provinces were involved in the survey (Fig. 1).

In each municipality, households were randomly selected from the telephone guide TELECOM (2005 edition) and were phoned up several times during the daytime and in the evening until contact was established. Each contacted household was invited to participate until the municipality's target number of households was reached for the category in terms of household composition. Each individual who had his/her main meals in the household on a regular basis during the period of the survey was considered as a member of the household, even if he/she was not a relative of other members. Criteria for inclusion of the household were that all members would participate in the case of households with up to three members and that no more than one member would refuse to participate in the case of households with more members. Information on the motivation for refusal was collected. The sampled households were distributed in

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the four seasons (excluding Christmas and Easter periods). The survey calendar was organized to capture an adequate proportion of weekdays and weekend days at group level.

Food survey

The food survey was conducted from October 2005 to December 2006 by a team of thirty trained field workers. Food consumption was self-recorded by subjects for three consecutive days on hard-copy diaries structured by meal. All foods, beverages, food supplements and medicines ingested were to be registered. The survey protocol is described in detail in publications related to previous food surveys performed by the National Research Institute for Food and Nutrition (INRAN) with the same methodology[6,7]. For children below 8 years of age and for any subject who was not able to do so, the diaries were filled in by the person who took care of him/her. Each field worker individually met each participant three times during the survey period. For every eating occasion, subjects were asked to carefully record: time, place of consumption, detailed description of foods (or beverages), quantity consumed and brand (for manufactured foods). Portion sizes were reported by subjects with the help of a picture booklet. The booklet was based on a selection of photo series from the original EPIC-SOFT picture book[8], with foods and dishes of different standard portion sizes (small, average or large) relevant for the Italian diet. The booklet included photos of household measures (glasses, spoons, cans, etc.) and instructions to quantify the portions used by children.

For each of the three days, subjects were asked if they were following a particular diet and if the consumption they had reported differed from their usual consumption. Field workers subsequently registered their judgement on the reliability of the information recorded in each single day.

Height and body weight were self-reported.

Ancillary databases

Four databases were used to transform the data reported by subjects into the weight of single raw ingredients and into the amounts of nutrients consumed: (i) the 'Food descriptors database': (ii) the 'Household unit of measurements database'; (iii) the 'Standard recipes database'; and (iv) the 'Food composition database'. In the 'Household unit of measurement database', the portions estimated by subjects with the help of the picture booklet are linked to the specific weight of each food item. This database contains a total of 9450 entries (weight of standard portions of specific dishes or units of measurement) for 2460 foods, i.e. on average approximately four entries per food.

Data coding, data entry and data processing

The data management system INRAN-DIARIO3.1 developed by INRAN[9] and used in previous surveys[6,7] was used for data coding, data entry and data processing. The food description reported on the diary was entered as such by the field worker in an open format text field. The quantity consumed was entered together with the unit of measurement (e.g. grams, glasses, spoons) and a food descriptor was selected from the relevant database.

The data entry procedure included a consistency check between units of measurements and food descriptors. A central procedure (MASTER) applied quality control routines.

The predicted energy expenditure (EE) was calculated for each subject based on the reported body weight and the equations reported by the Scientific Committee for Food[10]. For infants and children below 10 years of age, equations are available to assess directly predicted EE. For subjects above 10 years of age, the estimated BMR (BMR_{est}) is first calculated and then multiplied by the estimated physical activity level (PAL). In adults and the elderly, the values considered were those of sedentary subjects with 'desirable physical activities'.

Thus, the hard copies of the diaries were checked to identify possible data entry errors when no eating occasion had been entered for one of the meals or when the total energy from food and beverages reported in a diary was more than 120 % or less than 70 % of the predicted EE of the subject.

Once the digit errors and codification errors were corrected, the average food consumption and the average energy intake (EI) during the survey period were calculated for each individual.

During the data processing, mixed dishes were disaggregated into their ingredients. Exceptions were some industrial processed products which contain a major ingredient from one category. Thus, fish fingers are reported in the category 'Fish, seafood and their products' even though they contain breading.

The classification of food items at ingredient level into fifteen large food categories and fifty-one subcategories was based largely on the classification developed by the European Food Safety Authority[11]. Any subject who consumed at least one item within the food category on at least one eating occasion during the survey was classified as a consumer of the category.

The water used in the reconstitution of dehydrated products was included in the subcategories 'Tap water' or 'Bottled water' together with water consumed as such. The Appendix provides a list of the major food items classified in each subcategory together with a list of the most frequent minor ingredients of composite foods belonging to other categories.

Subjects were classified according to age category: infants (0–2·9 years), children (3–9·9 years), teenagers (10–17·9 years), adults (18–64·9 years) and elderly (65 years and above).

Statistical analyses were carried out using the SAS for Windows statistical software package release 8·01 (SAS Institute Inc., Cary, NC, USA).

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Results

Among all households that had been randomly extracted, 14 % could not be contacted (they had moved or were absent) whereas 2 % were contacted but not invited to participate because the target number of households for their category had been reached in the municipality. Among households invited to participate, the participation rate was 33 %. The most frequently reported motivation for refusal was lack of time (49 %).

A total of 3328 individuals belonging to 1329 households participated in the food survey. Among these, five subjects were excluded because their food diaries were considered unreliable by the field worker due to a low level of collaboration and repeated omissions in the recording of eating occasions. The final study sample therefore comprised 3323 subjects. Males were aged 0·1 to 92·9 years and females were aged 0·1 to 97·7 years. Physical characteristics of the study sample by age and sex are described in Table 1.

Overall, the analysed records represent 9969 days. Weekdays (Monday to Friday) represented 78 % of all survey days, i.e. slightly more than 5/7. Survey days were proportionally distributed among seasons: 25 % in autumn, 25 % in winter, 26 % in spring and 24 % in summer.

Overall 199 subjects (141 females and fifty-eight males) declared to be on a specific diet during the survey, most often a slimming diet (fifty-nine females and seventeen males). Other diets were related to health conditions or other reasons (e.g. vegetarian diet). Moreover, 208 subjects declared that their food consumption on at least one of the survey days had differed from usual, leading to either increased (e.g. feast) or reduced (e.g. subjects feeling unwell) food consumption.

Mean EI in the study sample (3323 subjects) is reported in Table 2 by age and sex. In the same table, EI and the ratio of EI to predicted EE are reported in a selected sample of 2890 subjects, after exclusion of females who were either pregnant (*n* 19) or lactating (*n* 10) and of all subjects who had reported a food consumption pattern different from usual or who were on any kind of diet.

The mean EI:BMR_{est} ratio in adults of the selected sample was 1·41 (1·36 in males and 1·46 in females; data not in table).

Results in terms of food consumption are presented in Table 3 for the total sample and in Tables 4–11 by age and sex categories.

The percentage contribution in weight to the total amount of foods and beverages was calculated for each large food category by age and sex and the significance of differences was tested ($P < 0·05$; Kruskal–Wallis test). Data are illustrated in Fig. 2. For most food categories, the percentage contribution varied significantly among age classes. Statistically significant differences between males and females were observed only in adults and the elderly and only for some food categories. For example, the contribution in weight of 'Alcoholic beverages and substitutes' was higher in males than in females (7·4 % *v.* 2·9 % in adults and 8·2 % *v.* 3·0 % in the elderly).

Among 'Cereals, cereal products and substitutes', the highest consumption was from 'Bread' followed by 'Pasta and pasta substitutes'. The consumption reported for 'Pizza' referred only to plain white pizza and plain tomato pizza. The total pizza consumption (including all types of

Table 1 Physical characteristics of the study sample by age and sex: Italian National Food Consumption Survey INRAN-SCAI 2005–06

			Weight* (kg)		Height* (cm)		BMI (kg/m^2)	
	Age (years)	*n*	Mean	SD	Mean	SD	Mean	SD
Males	0–2·9	29	11·5	3·6	81·7	15·3	17·1	3·3
	3–9·9	94	26·2	8·3	122·3	13·8	17·2	3·5
	10–17·9	108	57·1	13·5	165·4	13·3	20·6	3·3
	18–64·9	1068	78·4	10·9	175·8	7·2	25·4	3·4
	≥65	202	78·1	12·8	171·5	6·6	26·5	3·9
	Total	*1501*						
Females	0–2·9	23	11·0	2·9	80·6	14·8	17·6	7·1
	3–9·9	99	26·1	8·4	119·1	18·4	18·6	6·5
	10–17·9	139	49·1	10·5	157·3	10·0	19·7	2·9
	18–64·9	1244	62·2	10·7	163·7	6·2	23·2	3·8
	≥65	316	65·0	11·2	160·5	5·4	25·2	4·1
	Total	*1821*						
Total	0–2·9	52	11·3	3·3	81·2	15·0	17·3	5·3
	3–9·9	193	26·1	8·3	120·7	16·3	17·9	5·3
	10–17·9	247	52·6	12·5	160·9	12·2	20·1	3·1
	18–64·9	2312	69·7	13·5	169·2	9·0	24·2	3·8
	≥65	518	70·1	13·5	164·8	8·0	25·7	4·1
	Total	*3322*						

*Weight and height were self-reported. Data are missing for one female in the age class 18–64·9 years.

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Table 2 Estimated energy intake (EI) and ratio of EI to predicted energy expenditure (EE) by age and sex: Italian National Food Consumption Survey INRAN-SCAI 2005–06

		Total study sample			Selected sample*				
			EI (MJ)			EI (MJ)		EI:EE	
	Age (years)	*n*	Mean	SD	*n*	Mean	SD	Mean	SD
Males	0–2·9	29	4·69	1·70	28	4·65	1·72	1·04	0·38
	3–9·9	94	8·17	2·15	86	8·16	2·12	0·98	0·29
	10–17·9	108	10·78	3·11	101	10·68	2·63	1·01	0·27
	18–64·9	1068	10·01	2·72	953	10·03	2·62	0·88	0·24
	≥65	202	9·61	2·33	182	9·70	2·28	0·98	0·24
	Total	*1501*			*1350*				
Females	0–2·9	23	4·63	1·85	21	4·45	1·64	1·03	0·37
	3–9·9	99	7·85	1·93	94	7·77	1·91	1·03	0·35
	10–17·9	139	8·75	2·22	120	8·74	2·15	1·00	0·26
	18–64·9	1245	8·12	2·20	1027	8·23	2·11	0·94	0·25
	≥65	316	7·68	2·03	278	7·80	1·99	0·95	0·24
	Total	*1822*			*1540*				
Total	0–2·9	52	4·66	1·75	49	4·56	1·67	1·04	0·37
	3–9·9	193	8·01	2·04	180	7·96	2·02	1·00	0·32
	10–17·9	247	9·64	2·83	221	9·63	2·56	1·01	0·27
	18–64·9	2313	8·99	2·63	1980	9·09	2·54	0·91	0·25
	≥65	518	8·43	2·35	460	8·56	2·30	0·96	0·24
	Total	*3323*			*2890*				

*The selected sample was obtained after exclusion of all female subjects who were either pregnant or lactating and of subjects who had declared to be on any kind of diet or who had reported that their food consumption pattern was different from usual during the survey days.

pizzas with their ingredients) was 55·7 g/d in the total population (data not in table).

Among 'Meat, meat products and substitutes', the highest proportion of consumers was found for the subcategory 'Ham, salami, sausages and other preserved meats, excl. offal' (81 % of the total sample) but the highest daily consumption was reported for the subcategory 'Beef and veal, not preserved, excl. offal' (more than 40 g/d in the total population). Only three subjects declared to follow a vegetarian diet during the survey. Overall thirty-two subjects did not consume 'Meat, meat products and substitutes' during the survey and four subjects consumed only meat substitutes (e.g. seitan and soya hamburger) among this category.

Among 'Oils and fats', olive oil represented 81 % of total consumption (and 93 % of vegetable oils) in the whole sample.

Among 'Alcoholic beverages and substitutes', 'Regular wine and substitutes' represented 70 % of total consumption in the whole sample, reaching 92 % and 94 % respectively in elderly males and elderly females.

A high percentage of infants, children and teenagers appeared to be consumers of 'Alcoholic beverages and substitutes' due to the consumption of dishes which are traditionally prepared with a few drops of alcoholic beverage added during the cooking process. After exclusion of this source, alcoholic beverages were found to be consumed by no infant, by four children (24 g/d on average in consumers) and by fifteen teenagers (44 g/d). The overall percentage of consumers of alcoholic beverages – consumed as such – in the study sample was 46·8 % and their mean daily consumption was 194·3 g/d (data not in table).

Discussion

Sampling and participation rate

As expected from the sampling procedure, the distribution of households among geographical areas (257 in the North-West, 376 in the North-East, 257 in the Centre and 439 in the South and Islands) and according to their composition category (329 singles – including 54 % aged 65 years or more, 665 households with two or three members and 665 households with four or more members) was in line with the last population Census[5].

Institutionalized subjects, such as the elderly in rest homes, were not covered.

Use of the TELECOM telephone guide as a sampling basis and of telephone calls as the first contact with households necessarily led to the exclusion of certain typologies of households: (i) households without a fixed telephone (11 % of Italian households according to ISTAT[12]); (ii) households whose telephone number is not reported in the TELECOM guide; and (iii) households whose members are very frequently out of home and who could not be contacted.

A high percentage of households refused to participate, leading to a low participation rate (33 %). In the previous Italian national food consumption survey[4] the participation rate of households was higher (47 %), but one-third of the subjects were then discarded due to clear

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Table 3 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – all ages, males and females: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 3323)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*258·4*	*106·0*	*248·8*	*443·5*	*590·1*	*3315*	*99·8*	*259·0*	*105·3*	*249·3*	*443·5*	*590·1*
Bread	103·3	77·4	90·0	245·0	340·0	3061	92·1	112·1	74·2	100·0	250·0	340·2
Pasta and pasta substitutes	54·2	33·1	53·0	108·7	140·1	3027	91·1	59·5	29·8	56·9	110·7	141·9
Pizza	7·8	24·5	0·0	62·5	116·7	463	13·9	55·7	40·4	40·0	125·0	(250·0)
Rice	15·8	24·6	0·0	62·8	104·2	1370	41·2	38·2	24·7	32·5	83·3	126·1
Wheat, other cereals and flours	36·5	36·8	26·8	105·8	147·1	2796	84·1	43·4	36·2	35·7	111·1	155·0
Breakfast cereals	1·5	5·5	0·0	10·0	30·0	334	10·1	14·8	10·4	10·0	31·3	(49·0)
Biscuits	13·8	21·8	2·7	53·3	93·9	1680	50·6	27·3	23·9	21·3	71·4	114·7
Savoury fine bakery products	8·1	16·1	0·0	36·7	66·7	1263	38·0	21·2	20·1	16·0	53·3	100·0
Cakes and sweet snacks	17·5	28·7	0·0	73·3	129·5	1475	44·4	39·5	31·5	31·3	102·0	156·3
Pulses, fresh and processed	*11·3*	*22·9*	*0·0*	*58·7*	*97·2*	*1149*	*34·6*	*32·6*	*28·7*	*24·4*	*80·7*	*126·7*
Vegetables, fresh and processed	*211·2*	*112·5*	*194·5*	*409·2*	*561·9*	*3310*	*99·6*	*212·0*	*111·9*	*194·9*	*409·6*	*561·9*
Leafy vegetables, fresh	43·1	52·6	27·0	143·0	243·3	2792	84·0	51·3	53·6	34·2	150·9	247·8
Tomatoes, fresh	41·9	42·6	31·1	125·9	196·4	2779	83·6	50·1	41·9	39·8	133·0	204·8
Other fruiting vegetables, fresh	30·9	50·5	6·1	134·2	210·0	2137	64·3	48·1	56·0	26·5	156·0	238·4
Roots and onions, fresh	19·4	25·2	10·2	71·7	116·9	3249	97·8	19·8	25·3	10·6	72·7	117·0
Other vegetables, fresh	37·3	47·0	18·2	131·4	208·3	2754	82·9	45·0	48·1	28·6	142·0	219·0
Vegetables, processed	36·7	33·4	31·5	96·4	135·4	2592	78·0	47·1	30·7	39·4	101·4	145·5
Spices and herbs	1·9	2·9	1·0	6·1	12·0	2761	83·1	2·3	3·0	1·4	6·5	14·5
Potatoes, tubers and their products	*50·9*	*55·2*	*41·7*	*156·1*	*219·9*	*2300*	*69·2*	*73·6*	*52·3*	*65·4*	*168·3*	*231·5*
Fruit, fresh and processed	*208·5*	*156·7*	*186·4*	*499·3*	*706·0*	*3115*	*93·7*	*222·4*	*152·0*	*198·4*	*506·0*	*712·1*
Citrus fruit, fresh	45·9	88·3	0·0	208·7	395·3	1559	46·9	97·9	107·4	60·7	303·3	485·6
Exotic fruit, fresh	17·0	28·9	0·0	66·7	130·8	1293	38·9	43·7	31·4	33·3	100·0	166·7
Other fruit, fresh	142·5	135·4	114·5	396·7	586·7	2760	83·1	171·6	130·7	145·7	416·7	646·0
Nuts, seeds, olives and their products, dried fruit	2·6	6·5	0·0	13·3	27·3	899	27·1	9·4	9·6	7·4	25·9	51·7
Other processed fruit (in syrup, in purée, etc.)	0·5	6·0	0·0	0·0	1·3	55	1·7	28·9	36·7	13·3	(106·7)	(150·0)
Meat, meat products and substitutes	*110·1*	*62·9*	*101·8*	*221·4*	*306·0*	*3290*	*99·0*	*111·2*	*62·3*	*102·8*	*221·7*	*307·6*
Beef and veal, not preserved, excl. offal	42·7	41·4	35·2	118·0	184·8	2500	75·2	56·8	38·4	45·8	129·2	204·5
Pork, not preserved, excl. offal	12·7	25·9	0·0	58·6	105·5	1042	31·4	40·6	31·9	41·3	93·8	153·3
Poultry and game, not preserved, excl. offal	20·8	29·7	0·0	79·8	117·9	1409	42·4	49·0	26·5	41·7	100·3	143·6
Other meats, not preserved, excl. offal	5·5	19·5	0·0	44·1	96·4	340	10·2	53·4	33·9	41·8	111·0	(134·3)
Ham, salami, sausages and other preserved meats, excl. offal	27·3	27·4	20·0	80·2	122·1	2701	81·3	33·6	26·7	26·7	84·9	127·1
Offal, blood and their products	1·1	7·4	0·0	0·0	37·3	108	3·3	32·7	25·2	33·3	(70·6)	(128·7)
Meat substitutes	0·1	1·6	0·0	0·0	0·0	7	0·2	33·3	8·3	33·3	(50·0)	(50·0)
Fish, seafood and their products	*44·7*	*51·0*	*32·2*	*147·2*	*214·1*	*2260*	*68·0*	*65·8*	*49·4*	*57·2*	*165·1*	*230·8*
Fish and seafood, fresh and frozen	38·8	49·8	12·8	140·9	206·0	1816	54·6	71·0	47·4	57·5	166·4	223·9
Fish and seafood, preserved	5·9	12·2	0·0	30·2	58·4	1088	32·7	18·1	15·3	13·5	50·0	73·0
Milk, milk products and substitutes	*198·0*	*129·3*	*185·2*	*416·8*	*570·4*	*3298*	*99·2*	*199·5*	*128·7*	*187·1*	*419·9*	*574·7*
Milk, milk-based beverages, human milk, infant formula and substitutes	119·3	114·3	112·5	288·2	436·7	2613	78·6	151·8	108·1	150·0	308·3	467·3
Yoghurt and fermented milk	20·6	48·1	0·0	125·0	208·3	793	23·9	86·3	63·4	83·3	200·0	(346·7)
Cheese and substitutes	57·0	42·3	50·8	133·3	190·8	3215	96·7	58·9	41·6	52·5	134·8	190·8
Milk-based desserts and substitutes	1·1	7·2	0·0	5·1	31·3	212	6·4	16·5	23·5	6·7	57·3	(125·0)

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Table 3 *Continued*

Food categories	Total population (*n* 3323)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*40·4*	*16·7*	*38·7*	*68·5*	*91·0*	*3312*	*99·7*	*40·5*	*16·5*	*38·8*	*68·6*	*91·0*
Olive oil	32·7	13·8	31·5	56·8	71·3	3312	99·7	32·9	13·6	31·5	56·8	71·3
Other vegetable oils	2·6	4·2	0·0	9·8	17·0	1388	41·8	6·2	4·5	6·1	12·9	24·0
Butter and creams	4·1	8·0	0·0	18·4	34·7	1520	45·7	9·0	9·8	6·1	25·1	42·2
Other fats	0·9	2·9	0·0	6·0	15·2	595	17·9	5·3	4·8	3·9	15·2	(21·3)
Eggs	*20·9*	*24·5*	*12·9*	*67·0*	*103·4*	*2469*	*74·3*	*28·1*	*24·5*	*20·4*	*73·1*	*115·2*
Alcoholic beverages and substitutes	*91·0*	*148·8*	*0·2*	*373·5*	*640·1*	*2477*	*74·5*	*122·1*	*160·9*	*66·7*	*428·0*	*666·8*
Regular wine and substitutes	64·1	111·2	0·1	293·3	480·0	2315	69·7	92·0	123·2	40·0	320·1	533·3
Beer, cider and substitutes	24·6	79·2	0·0	133·3	400·0	550	16·6	148·7	139·6	110·0	400·0	(600·0)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	2·3	11·4	0·0	13·3	53·3	437	13·2	17·4	27·0	6·7	66·8	(133·3)
Sweet products and substitutes	*33·1*	*33·3*	*24·0*	*94·6*	*161·8*	*3096*	*93·2*	*35·5*	*33·3*	*26·5*	*97·7*	*166·9*
Ice cream, ice lolly and substitutes	10·0	26·2	0·0	66·7	133·3	674	20·3	49·1	38·3	33·3	133·3	(200·0)
Chocolate and substitutes	2·6	7·1	0·0	15·7	34·7	753	22·7	11·4	10·9	7·5	33·3	(48·1)
Candies, jam and other sweet products (incl. sugar-free)	3·2	8·8	0·0	20·0	37·3	885	26·6	11·8	13·7	8·4	33·3	52·5
Sugar, fructose, honey and other nutritious sweeteners	16·6	15·0	14·2	43·5	62·7	2821	84·9	19·6	14·4	16·0	45·6	64·3
Cocoa and cocoa-based powder	0·7	3·7	0·0	4·7	15·8	319	9·6	7·6	9·4	5·2	23·3	(36·1)
Artificial sweeteners	0·0	0·3	0·0	0·0	1·7	142	4·3	1·1	1·2	1·0	(3·8)	(4·7)
Meal substitutes	*0·0*	*1·1*	*0·0*	*0·0*	*0·0*	*4*	*0·1*	*30·1*	*15·2*	*28·5*	*(50·0)*	*(50·0)*
Water and other non-alcoholic beverages	*836·1*	*428·8*	*772·1*	*1640·0*	*2183·3*	*3320*	*99·9*	*836·9*	*428·2*	*772·5*	*1640·2*	*2183·3*
Tap water (as such, in beverages or recipes)	196·4	303·2	62·5	853·3	1373·3	1897	57·1	344·1	332·1	241·7	1022·6	1493·3
Bottled water	452·2	409·9	413·3	1173·3	1760·0	2541	76·5	591·3	370·8	533·3	1280·0	1853·3
Coffee, tea, herbal tea and substitutes	122·8	115·5	100·0	340·0	516·7	2913	87·7	140·1	113·1	115·0	352·8	532·1
Fruit and vegetable juices	36·2	80·3	1·5	200·0	336·0	1867	56·2	64·4	98·2	8·4	250·0	416·7
Other soft drinks	28·6	77·3	0·0	163·3	333·3	725	21·8	130·9	118·5	106·7	330·0	(586·7)
Miscellaneous	*3·1*	*3·8*	*2·0*	*10·0*	*17·8*	*2590*	*77·9*	*4·0*	*3·9*	*2·7*	*10·8*	*20·0*
Total amount of foods and beverages†	*2118·0*	*629·0*	*2059·9*	*3263·3*	*3900·1*	*3323*	*100·0*	*2118·0*	*629·0*	*2059·9*	*3263·3*	*3900·1*
Total amount of liquid foods	1048·8	438·5	979·4	1886·5	2377·5	3323	100·0	1048·8	438·5	979·4	1886·5	2377·5
Total amount of solid foods	1069·2	317·2	1050·6	1607·8	1962·2	3319	99·9	1070·5	315·2	1050·9	1608·4	1962·2

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 4 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – infants (0·1 to 2·9 years), males and females: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 52)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*105·8*	*78·3*	*95·2*	*(240·6)*	*(299·7)*	*44*	*84·6*	*125·0*	*69·3*	*111·0*	*(240·6)*	*(299·7)*
Bread	17·9	28·4	0·0	(86·0)	(95·0)	21	40·4	44·3	28·8	37·5	(90·0)	(95·0)
Pasta and pasta substitutes	36·1	29·1	38·0	(86·2)	(125·2)	41	78·8	45·8	25·0	43·5	(86·2)	(125·2)
Pizza	3·9	15·4	0·0	(37·5)	(75·0)	4	7·7	51·0	28·9	56·3	(75·0)	(75·0)
Rice	12·6	28·4	0·0	(77·3)	(144·0)	15	28·8	43·6	38·7	34·2	(144·0)	(144·0)
Wheat, other cereals and flours	10·8	18·3	0·2	(54·3)	(70·0)	26	50·0	21·6	21·0	11·5	(58·9)	(70·0)
Breakfast cereals	0·3	1·4	0·0	(1·7)	(7·5)	3	5·8	5·3	3·2	6·7	(7·5)	(7·5)
Biscuits	16·2	14·4	14·0	(41·3)	(48·3)	40	76·9	21·0	12·8	18·0	(43·3)	(48·3)
Savoury fine bakery products	1·4	4·8	0·0	(7·5)	(32·0)	8	15·4	9·0	9·4	5·9	(32·0)	(32·0)
Cakes and sweet snacks	6·6	19·2	0·0	(37·3)	(110·6)	10	19·2	34·3	32·1	26·7	(110·6)	(110·6)
Pulses, fresh and processed	*5·2*	*9·0*	*0·0*	*(30·0)*	*(30·2)*	*15*	*28·8*	*17·9*	*7·1*	*15·5*	*(30·2)*	*(30·2)*
Vegetables, fresh and processed	*60·5*	*66·3*	*42·7*	*(235·1)*	*(285·7)*	*44*	*84·6*	*71·5*	*66·3*	*49·9*	*(235·1)*	*(285·7)*
Leafy vegetables, fresh	5·3	15·0	0·0	(30·3)	(86·4)	19	36·5	14·6	22·2	6·9	(86·4)	(86·4)
Tomatoes, fresh	6·0	10·3	0·0	(27·7)	(50·0)	20	38·5	15·7	11·2	11·9	(40·3)	(50·0)
Other fruiting vegetables, fresh	7·2	19·3	0·0	(53·5)	(109·5)	15	28·8	24·8	29·8	12·9	(109·5)	(109·5)
Roots and onions, fresh	9·8	15·9	5·1	(28·5)	(95·8)	41	78·8	12·4	17·0	6·5	(28·5)	(95·8)
Other vegetables, fresh	2·9	6·6	0·4	(20·9)	(35·3)	29	55·8	5·1	8·3	2·4	(25·0)	(35·3)
Vegetables, processed	29·0	46·7	23·6	(75·0)	(240·0)	31	59·6	48·7	52·2	32·2	(231·1)	(240·0)
Spices and herbs	0·3	0·8	0·0	(2·9)	(3·3)	19	36·5	0·9	1·1	0·4	(3·3)	(3·3)
Potatoes, tubers and their products	*17·3*	*26·7*	*1·6*	*(84·5)*	*(102·6)*	*27*	*51·9*	*33·4*	*28·9*	*19·3*	*(85·3)*	*(102·6)*
Fruit, fresh and processed	*117·5*	*99·6*	*93·8*	*(283·3)*	*(363·3)*	*44*	*84·6*	*138·8*	*93·4*	*103·3*	*(283·3)*	*(363·3)*
Citrus fruit, fresh	7·8	22·4	0·0	(60·7)	(121·3)	14	26·9	28·9	36·3	11·7	(121·3)	(121·3)
Exotic fruit, fresh	19·2	29·8	0·0	(83·3)	(133·3)	24	46·2	41·6	31·5	33·3	(88·9)	(133·3)
Other fruit, fresh	73·6	75·5	50·0	(213·1)	(250·6)	36	69·2	106·3	68·7	94·7	(250·0)	(250·6)
Nuts, seeds, olives and their products, dried fruit	0·5	2·1	0·0	(2·7)	(12·8)	4	7·7	6·3	5·0	5·1	(12·8)	(12·8)
Other processed fruit (in syrup, in purée, etc.)	16·4	31·1	0·0	(100·0)	(106·7)	15	28·8	56·9	32·6	53·3	(106·7)	(106·7)
Meat, meat products and substitutes	*55·0*	*37·7*	*57·5*	*(135·9)*	*(160·0)*	*47*	*90·4*	*60·8*	*34·8*	*62·5*	*(135·9)*	*(160·0)*
Beef and veal, not preserved, excl. offal	25·9	27·9	20·1	(80·0)	(106·7)	33	63·5	40·8	24·8	37·5	(80·0)	(106·7)
Pork, not preserved, excl. offal	1·3	3·3	0·0	(8·8)	(16·7)	8	15·4	8·4	3·5	6·6	(16·7)	(16·7)
Poultry and game, not preserved, excl. offal	14·7	20·8	0·0	(53·3)	(80·0)	22	42·3	34·7	18·1	27·8	(68·5)	(80·0)
Other meats, not preserved, excl. offal	3·8	12·7	0·0	(26·7)	(80·0)	8	15·4	25·0	23·8	19·2	(80·0)	(80·0)
Ham, salami, sausages and other preserved meats, excl. offal	9·3	13·3	0·8	(39·5)	(55·9)	26	50·0	18·6	13·4	13·3	(40·0)	(55·9)
Offal, blood and their products	Not consumed					0	0·0					
Meat substitutes	Not consumed					0	0·0					
Fish, seafood and their products	*24·0*	*31·4*	*0·6*	*(85·7)*	*(118·1)*	*26*	*50·0*	*47·9*	*28·5*	*48·7*	*(95·6)*	*(118·1)*
Fish and seafood, fresh and frozen	21·6	27·8	0·0	(85·7)	(95·6)	24	46·2	46·9	21·8	46·7	(85·7)	(95·6)
Fish and seafood, preserved	2·3	7·8	0·0	(22·5)	(43·8)	7	13·5	17·3	14·9	13·3	(43·8)	(43·8)
Milk, milk products and substitutes	*397·3*	*241·7*	*331·4*	*(858·3)*	*(1080·0)*	*52*	*100·0*	*397·3*	*241·7*	*331·4*	*(858·3)*	*(1080·0)*
Milk, milk-based beverages, human milk, infant formula and substitutes	334·0	258·2	250·4	(840·0)	(1080·0)	51	98·1	340·6	256·4	250·7	(840·0)	(1080·0)
Yoghurt and fermented milk	37·3	49·4	10·7	(166·7)	(175·0)	27	51·9	71·9	47·1	50·0	(166·7)	(175·0)
Cheese and substitutes	24·4	22·8	20·1	(71·3)	(95·8)	44	84·6	28·9	22·0	23·3	(71·3)	(95·8)
Milk-based desserts and substitutes	1·5	8·6	0·0	(2·6)	(60·0)	3	5·8	26·1	30·1	15·6	(60·0)	(60·0)

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Table 4 *Continued*

Food categories	Total population (*n* 52)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*12·8*	*10·0*	*13·0*	*(31·9)*	*(41·3)*	*43*	*82·7*	*15·5*	*8·9*	*14·4*	*(31·9)*	*(41·3)*
Olive oil	11·0	8·7	10·8	(28·7)	(37·1)	43	82·7	13·4	7·8	12·0	(28·7)	(37·1)
Other vegetable oils	0·6	1·5	0·0	(4·6)	(6·1)	8	15·4	3·6	2·0	3·7	(6·1)	(6·1)
Butter and creams	0·8	1·9	0·0	(5·0)	(8·6)	12	23·1	3·5	2·4	3·1	(8·6)	(8·6)
Other fats	0·4	1·6	0·0	(5·6)	(8·3)	4	7·7	5·5	2·7	6·0	(8·3)	(8·3)
Eggs	*5·9*	*9·6*	*0·0*	*(27·6)*	*(44·4)*	*23*	*44·2*	*13·4*	*10·4*	*11·3*	*(27·9)*	*(44·4)*
Alcoholic beverages and substitutes	*0·0*	*0·0*	*0·0*	*(0·0)*	*(0·1)*	*11*	*21·2*	*0·0*	*0·0*	*0·0*	*(0·1)*	*(0·1)*
Regular wine and substitutes	0·0	0·0	0·0	(0·0)	(0·1)	10	19·2	0·0	0·0	0·0	(0·1)	(0·1)
Beer, cider and substitutes	Not consumed					0	0·0					
Sweet wine, spumante, wine-based appetizers, spirits and liquors	0·0	0·0	0·0	(0·0)	(0·0)	1	1·9	0·0	–	0·0	(0·0)	(0·0)
Sweet products and substitutes	*10·0*	*16·3*	*2·7*	*(41·0)*	*(86·7)*	*27*	*51·9*	*19·3*	*18·3*	*14·0*	*(51·2)*	*(86·7)*
Ice cream, ice lolly and substitutes	1·6	6·6	0·0	(25·0)	(33·3)	3	5·8	27·8	4·8	25·0	(33·3)	(33·3)
Chocolate and substitutes	1·8	5·6	0·0	(12·5)	(31·3)	8	15·4	11·6	9·9	6·7	(31·3)	(31·3)
Candies, jam and other sweet products (incl. sugar-free)	0·4	1·7	0·0	(3·7)	(10·8)	4	7·7	4·9	4·4	4·3	(10·8)	(10·8)
Sugar, fructose, honey and other nutritious sweeteners	6·0	9·0	0·8	(26·7)	(39·7)	26	50·0	12·0	9·6	8·4	(32·0)	(39·7)
Cocoa and cocoa-based powder	0·3	1·4	0·0	(0·0)	(8·3)	2	3·8	7·1	1·8	7·1	(8·3)	(8·3)
Artificial sweeteners	Not consumed					0	0·0					
Meal substitutes	Not consumed					0	0·0					
Water and other non-alcoholic beverages	*446·8*	*258·6*	*405·8*	*(886·7)*	*(1006·7)*	*49*	*94·2*	*474·2*	*240·4*	*443·7*	*(886·7)*	*(1006·7)*
Tap water (as such, in beverages or recipes)	101·5	139·7	40·0	(427·5)	(618·3)	29	55·8	182·0	142·6	142·5	(493·3)	(618·3)
Bottled water	265·3	215·9	240·0	(746·7)	(853·3)	42	80·8	328·5	191·7	285·0	(746·7)	(853·3)
Coffee, tea, herbal tea and substitutes	11·6	41·6	0·0	(100·0)	(250·0)	9	17·3	67·1	82·7	24·5	(250·0)	(250·0)
Fruit and vegetable juices	66·3	102·8	0·0	(300·0)	(333·3)	24	46·2	143·7	108·7	137·5	(331·7)	(333·3)
Other soft drinks	2·1	10·4	0·0	(0·0)	(53·3)	2	3·8	53·3	0·0	53·3	(53·3)	(53·3)
Miscellaneous	*0·9*	*1·5*	*0·3*	*(3·0)*	*(8·5)*	*33*	*63·5*	*1·4*	*1·7*	*0·9*	*(5·3)*	*(8·5)*
Total amount of foods and beverages†	*1259·5*	*366·9*	*1223·3*	*(1880·2)*	*(1983·6)*	*52*	*100·0*	*1259·5*	*366·9*	*1223·3*	*(1880·2)*	*(1983·6)*
Total amount of liquid foods	776·2	311·0	763·8	(1306·0)	(1693·3)	52	100·0	776·2	311·0	763·8	(1306·0)	(1693·3)
Total amount of solid foods	483·3	248·5	484·5	(846·8)	(1011·3)	48	92·3	523·6	213·2	516·5	(846·8)	(1011·3)

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 5 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – children (3 to 9·9 years), males and females: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 193)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*238·0*	*87·6*	*230·6*	*394·4*	*(448·3)*	*193*	*100·0*	*238·0*	*87·6*	*230·6*	*394·4*	*(448·3)*
Bread	73·6	60·5	60·0	180·0	(290·0)	172	89·1	82·6	58·0	66·3	180·0	(290·0)
Pasta and pasta substitutes	58·2	28·7	56·1	104·9	(161·7)	188	97·4	59·8	27·4	56·8	104·9	(161·7)
Pizza	7·2	19·0	0·0	50·0	(100·0)	35	18·1	39·9	26·5	33·3	(100·0)	(112·5)
Rice	16·2	23·2	0·0	62·5	(104·2)	89	46·1	35·1	22·5	29·7	(83·3)	(108·8)
Wheat, other cereals and flours	26·5	27·8	15·9	84·1	(101·3)	169	87·6	30·2	27·7	24·4	85·0	(101·3)
Breakfast cereals	3·8	7·8	0·0	22·5	(30·0)	50	25·9	14·8	8·4	13·0	(30·0)	(31·3)
Biscuits	18·5	20·5	13·3	61·3	(89·3)	131	67·9	27·2	19·6	23·3	(69·3)	(89·3)
Savoury fine bakery products	5·9	11·2	0·0	30·0	(48·0)	67	34·7	17·1	13·0	12·9	(38·0)	(71·6)
Cakes and sweet snacks	28·1	30·4	20·0	94·5	(119·1)	135	69·9	40·2	28·9	33·0	(101·4)	(119·1)
Pulses, fresh and processed	*10·1*	*15·5*	*0·0*	*40·0*	*(62·2)*	*83*	*43·0*	*23·5*	*15·7*	*21·9*	*(44·0)*	*(101·2)*
Vegetables, fresh and processed	*134·3*	*67·2*	*119·8*	*264·9*	*(306·9)*	*192*	*99·5*	*135·0*	*66·7*	*120·4*	*264·9*	*(306·9)*
Leafy vegetables, fresh	16·3	21·4	6·8	60·7	(98·5)	130	67·4	24·2	22·1	18·6	(79·7)	(98·5)
Tomatoes, fresh	29·2	26·5	23·1	76·2	(118·3)	160	82·9	35·2	25·2	29·4	(88·3)	(118·3)
Other fruiting vegetables, fresh	14·9	26·7	0·2	83·7	(107·5)	104	53·9	27·7	31·1	16·5	(93·9)	(107·5)
Roots and onions, fresh	18·0	20·7	10·3	65·5	(101·5)	192	99·5	18·0	20·8	10·4	65·5	(101·5)
Other vegetables, fresh	19·2	29·1	7·0	65·4	(181·5)	150	77·7	24·7	30·9	15·1	(69·7)	(181·5)
Vegetables, processed	35·2	23·9	31·5	77·8	(94·6)	171	88·6	39·7	21·6	34·7	80·9	(94·6)
Spices and herbs	1·5	2·0	0·7	5·4	(7·6)	159	82·4	1·8	2·1	1·1	(5·7)	(7·6)
Potatoes, tubers and their products	*47·2*	*46·6*	*43·3*	*144·2*	*(173·4)*	*140*	*72·5*	*65·0*	*42·9*	*58·6*	*(145·0)*	*(173·4)*
Fruit, fresh and processed	*136·0*	*93·8*	*122·0*	*287·7*	*(337·9)*	*175*	*90·7*	*150·0*	*87·1*	*138·2*	*288·0*	*(337·9)*
Citrus fruit, fresh	21·9	46·8	0·0	114·0	(240·1)	62	32·1	68·2	60·8	60·7	(182·0)	(280·0)
Exotic fruit, fresh	22·6	27·7	7·5	66·7	(100·0)	102	52·8	42·7	24·3	33·3	(100·0)	(100·0)
Other fruit, fresh	89·3	82·9	74·0	237·6	(304·0)	149	77·2	115·7	76·4	100·0	(241·3)	(304·0)
Nuts, seeds, olives and their products, dried fruit	1·2	3·7	0·0	7·4	(17·0)	37	19·2	6·4	6·2	5·3	(17·0)	(34·3)
Other processed fruit (in syrup, in purée, etc.)	0·9	11·0	0·0	0·0	(33·3)	2	1·0	91·7	82·5	91·7	(150·0)	(150·0)
Meat, meat products and substitutes	*99·6*	*45·3*	*94·6*	*181·8*	*(237·5)*	*191*	*99·0*	*100·6*	*44·4*	*94·9*	*181·8*	*(237·5)*
Beef and veal, not preserved, excl. offal	38·0	33·1	35·3	94·4	(170·2)	154	79·8	47·6	30·2	41·3	(97·8)	(170·2)
Pork, not preserved, excl. offal	11·2	19·5	0·0	46·9	(83·0)	71	36·8	30·6	21·1	33·3	(65·0)	(96·9)
Poultry and game, not preserved, excl. offal	23·3	30·2	15·7	72·8	(143·6)	105	54·4	42·9	29·0	38·4	(88·3)	(143·6)
Other meats, not preserved, excl. offal	3·0	13·9	0·0	28·8	(60·0)	14	7·3	41·4	33·6	32·3	(148·1)	(148·1)
Ham, salami, sausages and other preserved meats, excl. offal	23·3	23·2	15·0	72·4	(88·5)	157	81·3	28·6	22·6	20·0	(74·5)	(88·5)
Offal, blood and their products	0·7	5·3	0·0	0·0	(33·3)	4	2·1	34·6	14·2	29·2	(55·1)	(55·1)
Meat substitutes	Not consumed					0	0·0					
Fish, seafood and their products	*40·3*	*44·9*	*37·5*	*132·0*	*(210·7)*	*132*	*68·4*	*58·9*	*43·0*	*50·8*	*(154·7)*	*(210·7)*
Fish and seafood, fresh and frozen	37·2	43·6	37·5	125·6	(205·1)	114	59·1	63·0	40·0	51·3	(154·7)	(205·1)
Fish and seafood, preserved	3·0	6·4	0·0	18·8	(26·5)	52	26·9	11·3	7·6	9·5	(23·5)	(30·0)
Milk, milk products and substitutes	*259·1*	*122·5*	*255·7*	*487·1*	*(696·7)*	*193*	*100·0*	*259·1*	*122·5*	*255·7*	*487·1*	*(696·7)*
Milk, milk-based beverages, human milk, infant formula and substitutes	197·2	115·5	202·4	400·0	(656·7)	185	95·9	205·7	110·3	210·8	400·0	(656·7)
Yoghurt and fermented milk	16·7	38·1	0·0	100·0	(200·0)	43	22·3	74·9	46·6	66·7	(141·7)	(250·0)
Cheese and substitutes	44·3	34·6	40·6	110·0	(141·5)	187	96·9	45·7	34·2	41·3	110·0	(141·5)
Milk-based desserts and substitutes	0·9	5·7	0·0	0·0	(41·7)	9	4·7	20·0	18·9	15·4	(60·0)	(60·0)

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Table 5 *Continued*

Food categories	Total population (*n* 193)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*33·2*	*12·8*	*30·9*	*55·0*	*(80·8)*	*193*	*100·0*	*33·2*	*12·8*	*30·9*	*55·0*	*(80·8)*
Olive oil	26·7	10·5	25·4	46·7	(54·5)	193	100·0	26·7	10·5	25·4	46·7	(54·5)
Other vegetable oils	2·4	3·0	0·8	8·6	(10·4)	97	50·3	4·8	2·4	4·6	(9·8)	(10·5)
Butter and creams	3·4	6·5	0·0	17·1	(29·8)	85	44·0	7·8	7·8	5·0	(23·0)	(45·0)
Other fats	0·7	1·9	0·0	4·7	(9·1)	37	19·2	3·5	3·1	2·8	(9·1)	(15·2)
Eggs	*20·0*	*24·7*	*11·1*	*65·4*	*(127·6)*	*150*	*77·7*	*25·7*	*25·2*	*18·3*	*(66·4)*	*(127·6)*
Alcoholic beverages and substitutes	*0·5*	*5·8*	*0·0*	*0·2*	*(13·3)*	*113*	*58·5*	*0·9*	*7·6*	*0·0*	*(0·2)*	*(13·3)*
Regular wine and substitutes	0·5	5·8	0·0	0·1	(13·3)	108	56·0	0·9	7·8	0·0	(0·2)	(13·3)
Beer, cider and substitutes	Not consumed					0	0·0					
Sweet wine, spumante, wine-based appetizers, spirits and liquors	0·0	0·1	0·0	0·0	(0·3)	7	3·6	0·4	0·7	0·1	(2·0)	(2·0)
Sweet products and substitutes	*35·8*	*31·9*	*25·3*	*93·6*	*(140·3)*	*181*	*93·8*	*38·1*	*31·6*	*27·3*	*93·6*	*(140·3)*
Ice cream, ice lolly and substitutes	14·1	27·4	0·0	66·7	(116·7)	57	29·5	47·7	30·7	40·0	(110·0)	(175·0)
Chocolate and substitutes	7·3	11·4	0·0	33·3	(47·2)	95	49·2	14·9	12·2	13·3	(36·7)	(80·0)
Candies, jam and other sweet products (incl. sugar-free)	2·0	4·7	0·0	13·3	(23·7)	50	25·9	7·6	6·6	5·6	(23·7)	(26·7)
Sugar, fructose, honey and other nutritious sweeteners	9·7	10·0	8·0	28·9	(53·3)	147	76·2	12·8	9·6	10·7	(31·0)	(53·3)
Cocoa and cocoa-based powder	2·6	7·7	0·0	16·3	(30·0)	44	22·8	11·6	12·7	8·3	(28·0)	(79·3)
Artificial sweeteners	Not consumed					0	0·0					
Meal substitutes	Not consumed					0	0·0					
Water and other non-alcoholic beverages	*650·0*	*280·8*	*590·0*	*1238·3*	*(1562·5)*	*193*	*100·0*	*650·0*	*280·8*	*590·0*	*1238·3*	*(1562·5)*
Tap water (as such, in beverages or recipes)	188·1	228·6	90·0	613·3	(920·8)	127	65·8	285·9	226·9	266·7	(746·7)	(920·8)
Bottled water	319·5	287·3	280·0	840·0	(1226·7)	150	77·7	411·2	261·7	373·3	(906·7)	(1226·7)
Coffee, tea, herbal tea and substitutes	34·4	80·9	0·0	173·3	(406·7)	62	32·1	107·0	112·8	77·5	(350·0)	(566·7)
Fruit and vegetable juices	80·0	96·0	50·0	266·7	(366·7)	127	65·8	121·6	94·6	116·7	(333·3)	(366·7)
Other soft drinks	27·9	52·5	0·0	120·0	(273·3)	62	32·1	87·0	58·9	66·7	(200·0)	(280·0)
Miscellaneous	*2·1*	*2·9*	*1·0*	*8·0*	*(15·5)*	*141*	*73·1*	*2·9*	*3·0*	*2·0*	*(8·8)*	*(15·5)*
Total amount of foods and beverages†	*1706·3*	*416·5*	*1636·9*	*2574·9*	*(2813·7)*	*193*	*100·0*	*1706·3*	*416·5*	*1636·9*	*2574·9*	*(2813·7)*
Total amount of liquid foods	849·2	277·8	797·4	1427·0	(1705·7)	193	100·0	849·2	277·8	797·4	1427·0	(1705·7)
Total amount of solid foods	857·1	229·2	827·1	1232·3	(1465·0)	193	100·0	857·1	229·2	827·1	1232·3	(1465·0)

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 6 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – teenagers (10 to 17·9 years), males: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 108)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*331·3*	*123·3*	*324·0*	*(550·1)*	*(657·3)*	*108*	*100·0*	*331·3*	*123·3*	*324·0*	*(550·1)*	*(657·3)*
Bread	121·4	81·4	113·0	(280·0)	(370·0)	105	97·2	124·9	79·9	119·9	(280·0)	(370·0)
Pasta and pasta substitutes	63·6	32·4	61·8	(128·0)	(133·3)	103	95·4	66·7	29·9	63·3	(128·0)	(133·3)
Pizza	10·3	23·5	0·0	(56·7)	(100·0)	24	22·2	46·2	29·1	40·0	(100·0)	(133·3)
Rice	16·7	23·6	0·0	(55·3)	(76·0)	49	45·4	36·7	22·1	33·9	(70·0)	(146·6)
Wheat, other cereals and flours	50·6	49·5	45·7	(149·3)	(195·4)	96	88·9	57·0	49·0	54·3	(151·6)	(304·8)
Breakfast cereals	3·9	8·8	0·0	(27·5)	(33·3)	24	22·2	17·5	10·4	15·8	(33·3)	(36·7)
Biscuits	28·9	43·8	16·0	(104·7)	(215·3)	65	60·2	48·0	47·7	37·3	(144·0)	(270·0)
Savoury fine bakery products	7·4	14·0	0·0	(40·0)	(53·7)	41	38·0	19·4	16·9	13·3	(53·3)	(85·7)
Cakes and sweet snacks	28·6	39·3	16·8	(121·8)	(180·0)	70	64·8	44·1	41·2	33·3	(138·4)	(218·8)
Pulses, fresh and processed	*13·8*	*26·6*	*0·0*	*(76·5)*	*(119·0)*	*36*	*33·3*	*41·4*	*31·4*	*30·3*	*(119·0)*	*(122·6)*
Vegetables, fresh and processed	*186·3*	*107·9*	*165·6*	*(390·4)*	*(493·6)*	*108*	*100·0*	*186·3*	*107·9*	*165·6*	*(390·4)*	*(493·6)*
Leafy vegetables, fresh	32·9	50·4	13·5	(131·5)	(184·3)	81	75·0	43·9	54·0	24·8	(154·9)	(333·3)
Tomatoes, fresh	38·6	37·5	30·7	(114·9)	(172·6)	90	83·3	46·3	36·5	34·8	(118·7)	(204·3)
Other fruiting vegetables, fresh	19·1	37·9	0·2	(113·2)	(132·2)	59	54·6	35·0	45·7	8·2	(122·6)	(182·2)
Roots and onions, fresh	16·5	18·6	9·3	(62·9)	(81·0)	108	100·0	16·5	18·6	9·3	(62·9)	(81·0)
Other vegetables, fresh	28·7	34·2	14·2	(87·9)	(108·8)	89	82·4	34·9	34·7	21·3	(97·1)	(181·5)
Vegetables, processed	48·5	39·4	40·2	(120·4)	(181·1)	90	83·3	58·2	36·0	50·6	(126·0)	(186·0)
Spices and herbs	1·9	2·2	1·1	(6·5)	(8·1)	91	84·3	2·3	2·2	1·6	(6·7)	(9·7)
Potatoes, tubers and their products	*68·7*	*66·2*	*63·5*	*(185·7)*	*(232·6)*	*83*	*76·9*	*89·4*	*62·0*	*81·7*	*(210·4)*	*(327·2)*
Fruit, fresh and processed	*139·2*	*114·6*	*118·0*	*(351·1)*	*(435·6)*	*98*	*90·7*	*153·4*	*110·9*	*128·9*	*(352·7)*	*(621·0)*
Citrus fruit, fresh	25·8	55·7	0·0	(174·7)	(242·7)	47	43·5	59·2	72·0	26·7	(222·7)	(274·0)
Exotic fruit, fresh	23·2	33·9	0·0	(100·0)	(128·3)	46	42·6	54·4	31·6	50·0	(106·3)	(133·3)
Other fruit, fresh	89·2	101·6	56·0	(273·2)	(415·1)	80	74·1	120·4	100·8	90·2	(289·2)	(617·0)
Nuts, seeds, olives and their products, dried fruit	1·0	3·3	0·0	(7·4)	(10·7)	16	14·8	7·0	5·8	6·6	(25·9)	(25·9)
Other processed fruit (in syrup, in purée, etc.)	0·0	0·1	0·0	(0·0)	(0·0)	1	0·9	1·3	–	1·3	(1·3)	(1·3)
Meat, meat products and substitutes	*145·1*	*69·3*	*129·6*	*(273·7)*	*(393·2)*	*108*	*100·0*	*145·1*	*69·3*	*129·6*	*(273·7)*	*(393·2)*
Beef and veal, not preserved, excl. offal	60·0	48·1	50·0	(133·6)	(187·4)	96	88·9	67·5	45·8	56·3	(136·7)	(339·3)
Pork, not preserved, excl. offal	15·7	35·4	0·0	(79·4)	(153·3)	35	32·4	48·5	48·0	41·7	(153·3)	(251·8)
Poultry and game, not preserved, excl. offal	24·9	30·2	20·2	(75·0)	(106·3)	58	53·7	46·4	26·4	41·6	(85·2)	(188·1)
Other meats, not preserved, excl. offal	3·4	12·9	0·0	(33·3)	(65·8)	8	7·4	46·2	17·2	41·6	(79·4)	(79·4)
Ham, salami, sausages and other preserved meats, excl. offal	40·5	33·9	35·6	(107·9)	(167·3)	98	90·7	44·7	32·8	40·5	(112·4)	(180·0)
Offal, blood and their products	0·6	3·8	0·0	(0·0)	(10·7)	4	3·7	15·5	14·6	9·1	(37·3)	(37·3)
Meat substitutes	Not consumed					0	0·0					
Fish, seafood and their products	*48·4*	*55·5*	*37·5*	*(165·2)*	*(197·9)*	*70*	*64·8*	*74·6*	*52·9*	*59·7*	*(173·6)*	*(231·4)*
Fish and seafood, fresh and frozen	43·9	55·3	11·1	(153·9)	(197·9)	57	52·8	83·1	50·2	69·2	(181·8)	(230·0)
Fish and seafood, preserved	4·5	10·4	0·0	(30·0)	(43·8)	29	26·9	16·7	14·2	12·4	(43·8)	(61·9)
Milk, milk products and substitutes	*246·0*	*136·6*	*250·5*	*(493·1)*	*(607·2)*	*106*	*98·1*	*250·7*	*133·6*	*251·9*	*(493·1)*	*(607·2)*
Milk, milk-based beverages, human milk, infant formula and substitutes	168·3	117·1	166·7	(333·3)	(440·0)	94	87·0	193·3	104·3	181·2	(364·8)	(595·8)
Yoghurt and fermented milk	13·5	35·2	0·0	(83·3)	(135·3)	21	19·4	69·2	51·0	52·0	(135·3)	(250·0)
Cheese and substitutes	63·8	44·1	61·4	(136·6)	(187·6)	104	96·3	66·2	43·1	62·7	(136·6)	(187·6)
Milk-based desserts and substitutes	0·5	3·0	0·0	(0·0)	(15·4)	5	4·6	10·7	10·4	5·1	(26·7)	(26·7)

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Table 6 *Continued*

Food categories	Total population (*n* 108)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*44·8*	*17·3*	*41·6*	*(76·2)*	*(97·2)*	*108*	*100·0*	*44·8*	*17·3*	*41·6*	*(76·2)*	*(97·2)*
Olive oil	35·1	12·9	32·0	(61·1)	(69·8)	108	100·0	35·1	12·9	32·0	(61·1)	(69·8)
Other vegetable oils	4·2	8·8	3·0	(10·5)	(24·0)	61	56·5	7·5	10·7	6·1	(12·8)	(84·5)
Butter and creams	4·2	6·2	1·3	(16·7)	(30·2)	57	52·8	7·9	6·7	6·5	(24·4)	(30·3)
Other fats	1·3	3·1	0·0	(5·3)	(15·2)	31	28·7	4·6	4·2	3·3	(15·2)	(17·3)
Eggs	*21·0*	*24·7*	*12·4*	*(67·2)*	*(119·7)*	*89*	*82·4*	*25·5*	*25·0*	*18·7*	*(70·1)*	*(126·8)*
Alcoholic beverages and substitutes	*4·7*	*18·5*	*0·0*	*(40·0)*	*(66·8)*	*70*	*64·8*	*7·3*	*22·6*	*0·1*	*(53·3)*	*(150·1)*
Regular wine and substitutes	2·6	9·7	0·0	(26·8)	(53·3)	66	61·1	4·2	12·2	0·1	(40·0)	(53·4)
Beer, cider and substitutes	1·6	12·3	0·0	(0·0)	(66·7)	2	1·9	88·3	30·6	88·3	(110·0)	(110·0)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	0·5	5·1	0·0	(0·1)	(0·9)	10	9·3	5·5	16·8	0·1	(53·3)	(53·3)
Sweet products and substitutes	*51·3*	*50·0*	*34·4*	*(156·0)*	*(220·0)*	*104*	*96·3*	*53·3*	*49·9*	*36·4*	*(156·0)*	*(220·0)*
Ice cream, ice lolly and substitutes	24·4	42·4	0·0	(118·0)	(166·7)	40	37·0	66·0	46·2	55·8	(158·3)	(220·0)
Chocolate and substitutes	7·0	10·3	0·0	(29·4)	(36·7)	48	44·4	15·7	10·0	13·3	(36·7)	(37·6)
Candies, jam and other sweet products (incl. sugar-free)	2·1	4·2	0·0	(11·7)	(16·0)	31	28·7	7·2	5·0	7·2	(16·0)	(19·4)
Sugar, fructose, honey and other nutritious sweeteners	15·0	20·9	11·7	(41·8)	(72·8)	81	75·0	20·0	22·0	16·0	(42·0)	(180·2)
Cocoa and cocoa-based powder	2·9	10·7	0·0	(16·3)	(30·0)	21	19·4	14·8	20·7	11·7	(30·0)	(97·9)
Artificial sweeteners	0·0	0·1	0·0	(0·0)	(0·0)	1	0·9	1·0	–	1·0	(1·0)	(1·0)
Meal substitutes	Not consumed					0	0·0					
Water and other non-alcoholic beverages	*969·3*	*474·4*	*966·9*	*(1710·0)*	*(2871·0)*	*108*	*100·0*	*969·3*	*474·4*	*966·9*	*(1710·0)*	*(2871·0)*
Tap water (as such, in beverages or recipes)	228·2	289·4	94·2	(906·7)	(1150·0)	70	64·8	352·1	292·7	320·0	(960·0)	(1165·0)
Bottled water	460·6	429·3	426·7	(1133·3)	(1466·7)	79	73·1	629·7	380·8	586·7	(1386·7)	(2060·0)
Coffee, tea, herbal tea and substitutes	85·0	133·1	23·3	(350·0)	(559·5)	62	57·4	148·0	146·9	91·3	(493·3)	(651·0)
Fruit and vegetable juices	97·5	158·1	8·1	(433·3)	(673·0)	81	75·0	130·1	170·8	68·7	(489·7)	(812·7)
Other soft drinks	97·9	159·6	0·0	(413·3)	(586·7)	52	48·1	203·4	177·6	160·0	(550·0)	(1066·7)
Miscellaneous	*3·8*	*4·3*	*2·4*	*(12·1)*	*(19·0)*	*82*	*75·9*	*5·0*	*4·3*	*4·1*	*(12·3)*	*(20·8)*
Total amount of foods and beverages†	*2273·7*	*683·6*	*2221·2*	*(3550·1)*	*(4771·4)*	*108*	*100·0*	*2273·7*	*683·6*	*2221·2*	*(3550·1)*	*(4771·4)*
Total amount of liquid foods	1143·8	469·5	1111·1	(1990·0)	(3055·8)	108	100·0	1143·8	469·5	1111·1	(1990·0)	(3055·8)
Total amount of solid foods	1129·9	311·1	1091·5	(1762·8)	(2034·8)	108	100·0	1129·9	311·1	1091·5	(1762·8)	(2034·8)

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 7 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – teenagers (10 to 17·9 years), females: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 139)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*265·3*	*101·2*	*(260·9)*	*(417·4)*	*559·6*	*139*	*100·0*	*265·3*	*101·2*	*260·9*	*(417·4)*	*(559·6)*
Bread	85·1	64·1	(75·0)	(206·5)	240·2	126	90·6	93·9	60·9	80·0	(206·5)	(240·2)
Pasta and pasta substitutes	56·6	30·3	(56·0)	(105·3)	133·3	129	92·8	61·0	26·9	59·3	(105·3)	(133·3)
Pizza	14·0	35·4	(0·0)	(87·5)	183·3	34	24·5	57·1	52·0	33·3	(183·3)	(250·0)
Rice	9·7	17·0	(0·0)	(39·5)	67·9	43	30·9	31·4	15·7	30·4	(51·3)	(99·4)
Wheat, other cereals and flours	43·9	39·5	(33·8)	(124·3)	140·1	128	92·1	47·7	38·9	42·1	(124·3)	(140·1)
Breakfast cereals	1·9	5·6	(0·0)	(15·0)	30·0	22	15·8	11·8	9·1	8·8	(30·0)	(35·0)
Biscuits	18·8	22·8	(12·0)	(66·7)	99·3	84	60·4	31·2	21·7	26·7	(76·0)	(103·3)
Savoury fine bakery products	10·6	17·7	(0·0)	(45·7)	89·5	66	47·5	22·4	19·9	16·7	(66·7)	(104·7)
Cakes and sweet snacks	24·6	31·9	(13·3)	(104·0)	125·9	86	61·9	39·7	32·4	28·5	(115·2)	(145·8)
Pulses, fresh and processed	*9·5*	*18·4*	*(0·0)*	*(46·3)*	*83·6*	*42*	*30·2*	*31·5*	*20·8*	*23·9*	*(76·5)*	*(91·0)*
Vegetables, fresh and processed	*166·4*	*86·3*	*(153·8)*	*(331·5)*	*393·3*	*139*	*100·0*	*166·4*	*86·3*	*153·8*	*(331·5)*	*(393·3)*
Leafy vegetables, fresh	23·5	32·6	(13·5)	(93·5)	166·7	103	74·1	31·7	34·3	20·0	(105·9)	(166·7)
Tomatoes, fresh	36·0	36·5	(25·7)	(113·2)	142·0	120	86·3	41·7	36·1	31·1	(115·6)	(142·0)
Other fruiting vegetables, fresh	25·8	42·8	(2·5)	(117·4)	193·0	81	58·3	44·3	48·2	25·0	(122·6)	(205·6)
Roots and onions, fresh	15·0	23·5	(7·7)	(55·4)	121·3	137	98·6	15·2	23·6	7·8	(55·4)	(121·3)
Other vegetables, fresh	25·7	34·1	(11·7)	(91·8)	180·0	113	81·3	31·6	35·2	22·5	(92·8)	(180·0)
Vegetables, processed	38·5	34·5	(33·4)	(100·2)	136·8	106	76·3	50·5	30·9	49·7	(107·5)	(136·8)
Spices and herbs	2·0	4·0	(1·0)	(6·5)	27·1	109	78·4	2·5	4·4	1·4	(7·1)	(27·1)
Potatoes, tubers and their products	*53·7*	*53·6*	*(49·0)*	*(161·4)*	*191·5*	*96*	*69·1*	*77·8*	*47·8*	*73·4*	*(167·3)*	*(193·9)*
Fruit, fresh and processed	*178·5*	*132·0*	*(182·0)*	*(428·8)*	*590·7*	*122*	*87·8*	*203·4*	*121·6*	*200·8*	*(428·8)*	*(590·7)*
Citrus fruit, fresh	30·4	66·3	(0·0)	(182·0)	298·0	59	42·4	71·7	86·4	60·7	(274·2)	(381·0)
Exotic fruit, fresh	23·4	36·1	(0·0)	(100·0)	171·7	61	43·9	53·3	37·0	33·3	(120·5)	(182·8)
Other fruit, fresh	122·5	123·0	(82·7)	(374·0)	488·3	105	75·5	162·2	116·5	150·0	(389·3)	(488·3)
Nuts, seeds, olives and their products, dried fruit	1·9	3·7	(0·0)	(10·7)	13·3	37	26·6	7·0	4·0	6·3	(13·3)	(20·8)
Other processed fruit (in syrup, in purée, etc.)	0·2	2·8	(0·0)	(0·0)	0·0	1	0·7	33·3	–	33·3	(33·3)	(33·3)
Meat, meat products and substitutes	*107·4*	*47·3*	*(107·4)*	*(193·8)*	*221·4*	*139*	*100·0*	*107·4*	*47·3*	*107·4*	*(193·8)*	*(221·4)*
Beef and veal, not preserved, excl. offal	41·8	35·8	(36·0)	(114·0)	129·6	110	79·1	52·8	32·2	43·9	(117·6)	(129·6)
Pork, not preserved, excl. offal	13·3	24·5	(0·0)	(73·9)	105·5	46	33·1	40·2	27·2	35·2	(93·8)	(105·8)
Poultry and game, not preserved, excl. offal	18·5	23·4	(0·0)	(55·3)	90·1	60	43·2	42·9	14·5	41·0	(70·3)	(90·4)
Other meats, not preserved, excl. offal	4·4	14·6	(0·0)	(47·5)	66·7	13	9·4	47·2	16·0	47·5	(80·3)	(80·3)
Ham, salami, sausages and other preserved meats, excl. offal	28·6	25·8	(21·7)	(72·1)	109·4	118	84·9	33·7	24·8	25·5	(85·7)	(109·4)
Offal, blood and their products	0·7	5·5	(0·0)	(0·0)	33·3	4	2·9	25·9	22·9	20·5	(55·1)	(55·1)
Meat substitutes	Not consumed					0	0·0					
Fish, seafood and their products	*49·4*	*57·1*	*(37·5)*	*(173·6)*	*255·7*	*101*	*72·7*	*68·0*	*56·8*	*53·3*	*(181·8)*	*(255·7)*
Fish and seafood, fresh and frozen	44·4	57·8	(27·2)	(170·2)	255·7	81	58·3	76·2	57·5	57·5	(181·8)	(255·7)
Fish and seafood, preserved	5·0	11·2	(0·0)	(23·5)	58·4	47	33·8	14·8	15·1	9·7	(41·3)	(73·0)
Milk, milk products and substitutes	*215·7*	*105·3*	*(208·5)*	*(416·8)*	*470·2*	*137*	*98·6*	*218·9*	*102·7*	*209·6*	*(416·8)*	*(470·2)*
Milk, milk-based beverages, human milk, infant formula and substitutes	139·8	97·5	(150·0)	(264·7)	343·8	116	83·5	167·5	82·0	166·7	(264·9)	(343·8)
Yoghurt and fermented milk	20·8	46·7	(0·0)	(125·0)	208·3	33	23·7	87·7	58·2	52·0	(208·3)	(250·0)
Cheese and substitutes	54·6	38·1	(46·9)	(127·6)	150·3	135	97·1	56·2	37·4	47·5	(127·6)	(150·3)
Milk-based desserts and substitutes	0·5	3·4	(0·0)	(0·0)	16·7	5	3·6	15·1	10·9	10·4	(33·3)	(33·3)

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Table 7 *Continued*

Food categories	Total population (*n* 139)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*38·8*	*16·1*	*(36·2)*	*(61·7)*	*97·6*	*138*	*99·3*	*39·1*	*15·8*	*36·2*	*(61·7)*	*(97·6)*
Olive oil	29·5	11·7	(28·8)	(53·4)	59·7	138	99·3	29·7	11·5	28·9	(53·4)	(59·7)
Other vegetable oils	3·3	3·7	(3·0)	(10·3)	13·5	81	58·3	5·7	3·1	5·2	(11·9)	(19·5)
Butter and creams	4·7	10·3	(0·0)	(23·0)	62·5	62	44·6	10·5	13·3	4·9	(25·0)	(76·8)
Other fats	1·3	2·9	(0·0)	(8·7)	12·2	35	25·2	5·1	3·7	4·0	(12·2)	(13·7)
Eggs	*20·8*	*24·2*	*(12·1)*	*(72·5)*	*115·2*	*111*	*79·9*	*26·1*	*24·4*	*18·0*	*(76·3)*	*(115·2)*
Alcoholic beverages and substitutes	*1·3*	*8·0*	*0·0*	*(0·3)*	*(55·1)*	*82*	*59·0*	*2·2*	*10·4*	*0·1*	*(3·5)*	*(66·7)*
Regular wine and substitutes	0·0	0·1	0·0	(0·2)	(0·2)	78	56·1	0·1	0·1	0·1	(0·2)	(0·2)
Beer, cider and substitutes	0·9	7·3	0·0	(0·0)	(55·0)	3	2·2	40·6	35·6	55·0	(66·7)	(66·7)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	0·4	3·5	0·0	(0·1)	(7·0)	17	12·2	3·1	9·7	0·1	(40·0)	(40·0)
Sweet products and substitutes	*36·4*	*35·3*	*28·4*	*(100·7)*	*(166·9)*	*129*	*92·8*	*39·3*	*35·1*	*30·8*	*(100·7)*	*(166·9)*
Ice cream, ice lolly and substitutes	15·8	32·3	0·0	(80·0)	(156·7)	42	30·2	52·4	39·3	33·3	(110·7)	(216·7)
Chocolate and substitutes	6·5	10·7	0·0	(34·3)	(40·0)	56	40·3	16·1	11·3	13·3	(40·0)	(43·3)
Candies, jam and other sweet products (incl. sugar-free)	2·3	5·1	0·0	(13·3)	(17·0)	49	35·3	6·5	6·9	4·0	(17·0)	(36·4)
Sugar, fructose, honey and other nutritious sweeteners	9·9	10·4	8·0	(31·6)	(44·3)	101	72·7	13·7	9·9	11·8	(31·8)	(44·3)
Cocoa and cocoa-based powder	1·9	5·1	0·0	(14·0)	(24·7)	30	21·6	8·7	7·7	7·0	(24·7)	(36·1)
Artificial sweeteners	0·0	0·0	0·0	(0·0)	(0·0)	1	0·7	0·0	–	0·0	(0·0)	(0·0)
Meal substitutes	Not consumed					0	0·0					
Water and other non-alcoholic beverages	*777·8*	*340·4*	*737·1*	*(1466·7)*	*(1905·0)*	*139*	*100·0*	*777·8*	*340·4*	*737·1*	*(1466·7)*	*(1905·0)*
Tap water (as such, in beverages or recipes)	208·1	326·6	53·3	(826·7)	(1773·3)	84	60·4	344·4	360·4	277·5	(906·7)	(1813·3)
Bottled water	389·6	332·8	386·7	(906·7)	(1506·7)	102	73·4	531·0	274·8	533·3	(913·3)	(1506·7)
Coffee, tea, herbal tea and substitutes	54·0	88·5	15·0	(250·0)	(480·0)	79	56·8	95·1	99·6	66·7	(266·7)	(532·1)
Fruit and vegetable juices	71·7	103·6	5·3	(316·7)	(416·7)	94	67·6	106·0	110·7	68·9	(333·3)	(469·4)
Other soft drinks	54·3	91·1	0·0	(266·7)	(403·3)	57	41·0	132·4	99·8	110·0	(340·0)	(533·3)
Miscellaneous	*2·7*	*2·9*	*1·8*	*(8·6)*	*(12·3)*	*107*	*77·0*	*3·5*	*2·8*	*2·6*	*(9·5)*	*(12·3)*
Total amount of foods and beverages†	*1923·9*	*520·0*	*1950·4*	*(2907·7)*	*(3169·5)*	*139*	*100·0*	*1923·9*	*520·0*	*1950·4*	*(2907·7)*	*(3169·5)*
Total amount of liquid foods	920·4	339·4	895·0	(1552·4)	(1983·5)	139	100·0	920·4	339·4	895·0	(1552·4)	(1983·5)
Total amount of solid foods	1003·4	276·6	978·7	(1536·0)	(1716·4)	139	100·0	1003·4	276·6	978·7	(1536·0)	(1716·4)

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 8 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – adults (18 to 64·9 years), males: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 1068)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*295·7*	*110·4*	*288·1*	*486·9*	*611·7*	*1068*	*100·0*	*295·7*	*110·4*	*288·1*	*486·9*	*611·7*
Bread	127·2	84·7	115·0	285·0	375·0	1015	95·0	133·8	81·6	120·0	290·0	375·0
Pasta and pasta substitutes	60·3	35·3	59·3	118·4	156·1	976	91·4	66·0	31·4	62·7	121·6	156·9
Pizza	8·7	27·3	0·0	66·7	133·3	146	13·7	63·6	44·4	50·0	(150·0)	(250·0)
Rice	16·4	25·9	0·0	67·9	110·0	426	39·9	41·2	25·7	34·2	83·3	(122·9)
Wheat, other cereals and flours	44·1	40·8	35·9	120·1	165·1	922	86·3	51·1	39·7	45·2	123·7	166·0
Breakfast cereals	0·9	4·7	0·0	4·7	30·0	62	5·8	16·1	12·1	14·0	(40·0)	(50·0)
Biscuits	13·4	23·5	0·0	56·9	103·3	467	43·7	30·6	27·0	24·0	83·3	(140·0)
Savoury fine bakery products	5·7	14·5	0·0	32·0	63·0	284	26·6	21·6	21·3	16·0	50·0	(146·3)
Cakes and sweet snacks	19·0	31·2	0·0	80·0	149·4	501	46·9	40·4	34·8	31·8	114·0	(162·1)
Pulses, fresh and processed	*11·7*	*24·7*	*0·0*	*60·4*	*97·9*	*358*	*33·5*	*34·8*	*31·9*	*24·9*	*87·4*	*(126·7)*
Vegetables, fresh and processed	*232·6*	*120·4*	*213·4*	*442·1*	*618·9*	*1067*	*99·9*	*232·9*	*120·2*	*213·5*	*442·1*	*618·9*
Leafy vegetables, fresh	45·3	53·9	30·1	146·1	247·8	913	85·5	53·0	54·7	36·4	151·8	247·8
Tomatoes, fresh	48·4	47·3	37·7	140·5	219·0	927	86·8	55·8	46·5	45·2	145·8	223·2
Other fruiting vegetables, fresh	34·0	54·9	6·7	145·0	235·5	687	64·3	52·9	60·8	32·4	165·8	(269·6)
Roots and onions, fresh	20·0	27·0	10·0	78·4	131·2	1052	98·5	20·3	27·1	10·4	78·9	131·2
Other vegetables, fresh	41·2	50·7	21·9	143·0	225·0	882	82·6	49·9	51·7	34·3	149·3	238·0
Vegetables, processed	41·6	35·7	37·8	103·6	140·2	855	80·1	52·0	32·4	42·8	111·6	158·3
Spices and herbs	2·0	2·8	1·2	6·4	11·6	914	85·6	2·4	2·9	1·5	6·8	11·6
Potatoes, tubers and their products	*54·3*	*57·4*	*48·1*	*162·9*	*229·2*	*738*	*69·1*	*78·5*	*53·5*	*73·2*	*179·0*	*(240·5)*
Fruit, fresh and processed	*200·0*	*161·7*	*172·7*	*507·3*	*735·3*	*995*	*93·2*	*214·7*	*157·8*	*184·9*	*517·7*	*747·8*
Citrus fruit, fresh	48·4	98·7	0·0	242·7	426·7	478	44·8	108·3	123·8	65·8	332·7	(604·7)
Exotic fruit, fresh	16·7	30·5	0·0	83·3	138·0	402	37·6	44·3	35·3	33·3	107·5	(166·7)
Other fruit, fresh	131·7	133·0	100·0	384·3	566·7	851	79·7	165·3	129·1	138·3	408·3	632·4
Nuts, seeds, olives and their products, dried fruit	3·1	6·8	0·0	14·8	27·5	342	32·0	9·6	9·0	7·5	23·5	(42·7)
Other processed fruit (in syrup, in purée, etc.)	0·1	1·8	0·0	0·0	0·6	12	1·1	8·1	15·3	0·9	(50·0)	(50·0)
Meat, meat products and substitutes	*131·5*	*73·5*	*120·6*	*259·0*	*357·9*	*1064*	*99·6*	*132·0*	*73·2*	*121·0*	*259·0*	*357·9*
Beef and veal, not preserved, excl. offal	48·7	47·3	41·2	137·4	215·9	814	76·2	63·9	44·3	53·8	146·7	233·4
Pork, not preserved, excl. offal	16·4	30·8	0·0	70·6	125·9	367	34·4	47·7	35·5	46·7	101·5	(177·4)
Poultry and game, not preserved, excl. offal	22·8	33·1	0·0	90·1	136·8	448	41·9	54·4	29·9	48·2	111·3	(166·7)
Other meats, not preserved, excl. offal	6·8	23·6	0·0	52·0	106·7	127	11·9	57·2	42·5	49·4	(119·3)	(135·8)
Ham, salami, sausages and other preserved meats, excl. offal	35·4	32·0	27·9	94·1	139·6	931	87·2	40·7	31·0	33·3	96·9	139·8
Offal, blood and their products	1·3	8·2	0·0	0·0	49·4	43	4·0	31·8	26·7	25·0	(65·8)	(140·3)
Meat substitutes	0·0	1·0	0·0	0·0	0·0	1	0·1	33·3	–	33·3	(33·3)	(33·3)
Fish, seafood and their products	*48·5*	*55·6*	*34·7*	*160·0*	*244·3*	*750*	*70·2*	*69·0*	*54·6*	*58·4*	*182·3*	*(254·6)*
Fish and seafood, fresh and frozen	41·2	54·5	6·2	152·1	226·9	587	55·0	75·0	53·6	62·5	185·4	(252·0)
Fish and seafood, preserved	7·2	13·8	0·0	34·5	66·2	401	37·5	19·3	16·5	14·2	58·4	(73·0)
Milk, milk products and substitutes	*177·5*	*126·4*	*157·0*	*381·0*	*556·3*	*1062*	*99·4*	*178·5*	*126·0*	*158·2*	*381·0*	*556·3*
Milk, milk-based beverages, human milk, infant formula and substitutes	94·3	107·9	52·0	255·8	358·3	762	71·3	132·2	106·3	126·3	270·0	(388·8)
Yoghurt and fermented milk	16·3	47·2	0·0	104·0	215·0	189	17·7	92·1	75·0	83·3	250·0	(375·0)
Cheese and substitutes	65·6	47·0	58·5	146·4	220·8	1043	97·7	67·2	46·4	60·0	147·1	220·8
Milk-based desserts and substitutes	1·2	6·5	0·0	5·1	31·3	97	9·1	13·5	17·4	5·1	(50·0)	(125·0)

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Table 8 *Continued*

Food categories	Total population (*n* 1068)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*45·9*	*18·1*	*43·5*	*76·7*	*101·2*	*1068*	*100·0*	*45·9*	*18·1*	*43·5*	*76·7*	*101·2*
Olive oil	36·7	14·5	35·4	61·2	79·5	1068	100·0	36·7	14·5	35·4	61·2	79·5
Other vegetable oils	3·1	4·6	0·0	12·1	21·1	481	45·0	6·9	4·6	6·1	15·4	(27·5)
Butter and creams	4·8	10·0	0·0	23·0	38·5	490	45·9	10·5	12·5	6·7	31·2	(50·9)
Other fats	1·3	3·6	0·0	10·0	16·7	224	21·0	6·2	5·5	4·7	16·4	(22·8)
Eggs	*24·4*	*28·2*	*15·6*	*77·0*	*129·2*	*815*	*76·3*	*32·0*	*28·2*	*23·9*	*85·0*	*141·9*
Alcoholic beverages and substitutes	*163·1*	*194·9*	*110·1*	*533·6*	*800·0*	*919*	*86·0*	*189·6*	*197·8*	*133·3*	*580·6*	*813·3*
Regular wine and substitutes	106·5	138·5	53·3	373·5	586·7	856	80·1	132·9	143·0	100·0	400·2	600·0
Beer, cider and substitutes	52·2	119·1	0·0	266·7	533·3	319	29·9	174·7	161·6	133·3	466·7	(666·7)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	4·5	17·2	0·0	33·5	86·7	197	18·4	24·4	33·7	13·3	93·3	(173·3)
Sweet products and substitutes	*36·3*	*36·8*	*26·7*	*103·5*	*193·7*	*1025*	*96·0*	*37·9*	*36·8*	*28·0*	*104·1*	*193·7*
Ice cream, ice lolly and substitutes	10·8	29·1	0·0	66·7	166·7	220	20·6	52·4	44·1	33·3	164·2	(226·7)
Chocolate and substitutes	2·3	6·6	0·0	15·0	33·3	230	21·5	10·7	10·5	6·7	33·3	(48·1)
Candies, jam and other sweet products (incl. sugar-free)	3·2	10·8	0·0	17·9	40·0	274	25·7	12·6	18·5	7·9	36·5	(80·0)
Sugar, fructose, honey and other nutritious sweeteners	19·4	16·1	16·0	48·0	72·1	965	90·4	21·5	15·5	18·7	49·3	72·1
Cocoa and cocoa-based powder	0·5	2·5	0·0	3·4	14·0	94	8·8	5·9	6·1	4·6	(22·3)	(30·0)
Artificial sweeteners	0·0	0·3	0·0	0·0	1·3	34	3·2	1·2	1·4	1·0	(3·3)	(7·9)
Meal substitutes	*0·1*	*1·8*	*0·0*	*0·0*	*0·0*	*3*	*0·3*	*31·5*	*18·3*	*31·0*	*(50·0)*	*(50·0)*
Water and other non-alcoholic beverages	*851·0*	*475·1*	*786·4*	*1697·9*	*2426·7*	*1068*	*100·0*	*851·0*	*475·1*	*786·4*	*1697·9*	*2426·7*
Tap water (as such, in beverages or recipes)	175·0	291·6	11·0	810·0	1370·0	562	52·6	332·6	330·6	213·3	1013·3	(1493·3)
Bottled water	474·7	429·0	426·7	1246·7	1813·3	831	77·8	610·1	392·3	560·0	1360·0	1880·0
Coffee, tea, herbal tea and substitutes	135·4	108·5	111·7	330·0	500·0	1024	95·9	141·2	107·0	119·6	333·3	500·0
Fruit and vegetable juices	30·4	75·2	1·5	200·0	330·0	601	56·3	54·0	93·8	6·6	204·0	(400·0)
Other soft drinks	35·5	92·4	0·0	213·3	390·0	258	24·2	146·8	138·1	110·0	373·3	(810·0)
Miscellaneous	*3·3*	*4·1*	*2·3*	*10·2*	*19·9*	*827*	*77·4*	*4·3*	*4·3*	*2·9*	*11·7*	*23·9*
Total amount of foods and beverages†	*2276·2*	*677·9*	*2189·8*	*3464·2*	*4125·3*	*1068*	*100·0*	*2276·2*	*677·9*	*2189·8*	*3464·2*	*4125·3*
Total amount of liquid foods	1111·3	492·1	1035·3	2057·6	2687·6	1068	100·0	1111·3	492·1	1035·3	2057·6	2687·6
Total amount of solid foods	1164·9	327·3	1131·5	1765·1	2075·2	1068	100·0	1164·9	327·3	1131·5	1765·1	2075·2

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 9 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – adults (18 to 64·9 years), females: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 1245)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*232·3*	*90·3*	*228·2*	*383·4*	*481·4*	*1245*	*100·0*	*232·3*	*90·3*	*228·2*	*383·4*	*481·4*
Bread	86·1	63·5	75·0	210·0	260·0	1135	91·2	94·4	60·3	85·0	210·0	260·0
Pasta and pasta substitutes	47·7	32·1	46·7	100·0	134·8	1104	88·7	53·8	28·8	52·2	102·2	137·8
Pizza	7·7	23·8	0·0	66·7	112·5	177	14·2	54·2	38·4	40·0	116·7	(262·5)
Rice	15·1	22·6	0·0	60·5	104·2	522	41·9	35·9	21·6	31·6	83·3	(106·9)
Wheat, other cereals and flours	36·5	34·4	29·2	97·5	129·1	1065	85·5	42·7	33·5	37·0	102·0	132·7
Breakfast cereals	1·7	5·9	0·0	14·0	30·0	153	12·3	14·2	10·5	10·0	30·3	(49·0)
Biscuits	12·4	18·6	4·0	47·5	93·0	646	51·9	23·9	19·8	18·7	60·7	(100·0)
Savoury fine bakery products	9·2	16·8	0·0	38·3	59·8	569	45·7	20·0	20·1	16·0	48·2	(71·6)
Cakes and sweet snacks	15·9	25·9	0·0	72·9	114·6	532	42·7	37·2	27·8	31·3	93·1	(133·8)
Pulses, fresh and processed	*11·2*	*22·8*	*0·0*	*58·7*	*100·1*	*431*	*34·6*	*32·4*	*28·7*	*24·9*	*83·3*	*(136·2)*
Vegetables, fresh and processed	*213·1*	*102·7*	*200·2*	*388·9*	*554·4*	*1244*	*99·9*	*213·3*	*102·6*	*200·5*	*388·9*	*554·4*
Leafy vegetables, fresh	45·8	51·3	31·9	143·0	233·3	1081	86·8	52·7	51·7	37·2	148·7	241·5
Tomatoes, fresh	42·1	41·5	32·8	126·7	190·0	1054	84·7	49·8	40·6	39·9	132·0	195·5
Other fruiting vegetables, fresh	32·7	51·0	8·2	135·4	205·1	846	68·0	48·1	55·5	30·0	154·0	240·0
Roots and onions, fresh	19·1	25·4	9·6	71·8	114·4	1210	97·2	19·7	25·6	10·2	74·7	114·4
Other vegetables, fresh	39·1	46·7	22·6	135·6	211·6	1052	84·5	46·2	47·4	31·9	142·5	215·8
Vegetables, processed	32·4	30·6	31·5	85·8	128·9	933	74·9	43·3	27·9	34·5	94·1	134·0
Spices and herbs	1·9	2·9	1·0	5·9	14·0	1050	84·3	2·2	3·1	1·4	6·3	15·4
Potatoes, tubers and their products	*46·6*	*53·2*	*34·2*	*145·8*	*200·0*	*833*	*66·9*	*69·6*	*51·3*	*62·5*	*163·4*	*219·9*
Fruit, fresh and processed	*216·5*	*148·8*	*198·6*	*493·5*	*666·0*	*1181*	*94·9*	*228·2*	*143·8*	*206·0*	*499·7*	*681·6*
Citrus fruit, fresh	49·4	86·9	2·0	222·7	381·6	636	51·1	96·8	101·0	60·7	303·3	(440·0)
Exotic fruit, fresh	16·8	27·8	0·0	66·7	125·0	493	39·6	42·3	29·5	33·3	100·0	(150·0)
Other fruit, fresh	147·6	128·9	126·3	401·7	555·3	1069	85·9	171·9	123·2	150·0	418·0	564·0
Nuts, seeds, olives and their products, dried fruit	2·5	6·3	0·0	13·3	30·8	333	26·7	9·4	9·1	7·4	26·0	(51·7)
Other processed fruit (in syrup, in purée, etc.)	0·2	2·4	0·0	0·0	0·6	16	1·3	13·1	17·8	1·3	(50·0)	(50·0)
Meat, meat products and substitutes	*97·3*	*52·8*	*91·4*	*190·1*	*252·0*	*1231*	*98·9*	*98·4*	*52·1*	*92·6*	*190·8*	*252·0*
Beef and veal, not preserved, excl. offal	38·0	37·6	33·3	108·8	156·6	908	72·9	52·1	34·7	41·5	117·7	179·3
Pork, not preserved, excl. offal	11·6	23·6	0·0	58·3	96·9	368	29·6	39·1	28·5	37·6	93·6	(140·2)
Poultry and game, not preserved, excl. offal	18·5	27·3	0·0	72·6	103·7	492	39·5	46·8	23·6	39·5	98·9	(122·1)
Other meats, not preserved, excl. offal	4·8	16·6	0·0	41·7	82·3	119	9·6	50·7	24·1	41·8	(101·4)	(127·1)
Ham, salami, sausages and other preserved meats, excl. offal	23·3	23·2	20·0	66·3	98·2	991	79·6	29·3	22·4	23·7	72·0	107·8
Offal, blood and their products	1·0	7·5	0·0	0·0	37·3	35	2·8	36·2	27·0	33·3	(82·3)	(128·7)
Meat substitutes	0·1	2·1	0·0	0·0	0·0	4	0·3	35·4	10·5	33·3	(50·0)	(50·0)
Fish, seafood and their products	*44·7*	*49·2*	*36·5*	*142·6*	*199·0*	*852*	*68·4*	*65·4*	*46·7*	*57·5*	*157·4*	*214·4*
Fish and seafood, fresh and frozen	38·7	47·8	15·2	137·2	184·6	680	54·6	70·9	43·6	57·5	158·4	(209·0)
Fish and seafood, preserved	6·0	12·4	0·0	31·9	58·4	414	33·3	18·2	15·4	13·5	50·0	(67·1)
Milk, milk products and substitutes	*192·9*	*117·8*	*183·3*	*405·0*	*504·5*	*1235*	*99·2*	*194·5*	*117·0*	*184·5*	*407·5*	*504·5*
Milk, milk-based beverages, human milk, infant formula and substitutes	110·5	96·4	112·5	260·9	350·0	993	79·8	138·5	88·1	135·0	277·7	357·1
Yoghurt and fermented milk	26·8	52·4	0·0	125·0	211·7	386	31·0	86·6	60·8	83·3	200·0	(346·7)
Cheese and substitutes	54·5	39·0	50·0	123·9	167·5	1202	96·5	56·4	38·3	51·7	124·3	167·5
Milk-based desserts and substitutes	1·1	8·7	0·0	5·1	33·3	75	6·0	18·5	30·7	5·1	(60·0)	(175·0)

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Table 9 *Continued*

Food categories	Total population (*n* 1245)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*38·8*	*14·3*	*37·7*	*64·0*	*78·0*	*1245*	*100·0*	*38·8*	*14·3*	*37·7*	*64·0*	*78·0*
Olive oil	31·4	12·4	30·2	52·6	63·2	1245	100·0	31·4	12·4	30·2	52·6	63·2
Other vegetable oils	2·6	3·7	0·0	9·4	14·5	553	44·4	5·9	3·5	6·1	12·0	(16·8)
Butter and creams	3·9	7·0	0·0	16·4	31·5	569	45·7	8·5	8·1	6·1	23·9	(42·2)
Other fats	0·8	2·6	0·0	5·3	12·2	219	17·6	4·8	4·3	3·4	14·0	(16·8)
Eggs	*18·7*	*21·5*	*11·5*	*61·0*	*89·9*	*906*	*72·8*	*25·7*	*21·3*	*19·9*	*67·5*	*94·0*
Alcoholic beverages and substitutes	*58·2*	*95·0*	*0·1*	*253·3*	*406·7*	*895*	*71·9*	*80·9*	*103·6*	*40·1*	*293·3*	*480·0*
Regular wine and substitutes	38·4	68·7	0·0	200·0	266·7	820	65·9	58·3	77·4	20·1	220·0	293·3
Beer, cider and substitutes	17·9	55·2	0·0	133·3	266·7	200	16·1	111·6	92·3	80·0	276·7	(441·7)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	1·8	8·5	0·0	13·3	40·1	156	12·5	14·5	20·0	1·5	(53·3)	(80·0)
Sweet products and substitutes	*31·2*	*29·9*	*22·8*	*87·7*	*143·8*	*1166*	*93·7*	*33·3*	*29·7*	*24·5*	*89·9*	*144·4*
Ice cream, ice lolly and substitutes	8·8	22·8	0·0	58·3	113·3	253	20·3	43·4	32·4	33·3	113·3	(166·7)
Chocolate and substitutes	2·0	6·0	0·0	11·7	30·7	253	20·3	9·8	10·1	6·7	30·7	(51·1)
Candies, jam and other sweet products (incl. sugar-free)	3·6	8·0	0·0	20·0	37·3	366	29·4	12·1	10·8	9·9	31·6	(47·7)
Sugar, fructose, honey and other nutritious sweeteners	16·3	13·9	13·9	42·7	61·2	1074	86·3	18·9	13·2	16·0	45·3	61·3
Cocoa and cocoa-based powder	0·5	2·4	0·0	2·6	12·1	101	8·1	5·9	6·2	4·6	(17·0)	(21·7)
Artificial sweeteners	0·1	0·4	0·0	0·1	2·3	72	5·8	1·2	1·1	0·8	(4·2)	(4·7)
Meal substitutes	*0·0*	*0·7*	*0·0*	*0·0*	*0·0*	*1*	*0·1*	*26·0*	*–*	*26·0*	*(26·0)*	*(26·0)*
Water and other non-alcoholic beverages	*882·6*	*423·9*	*812·2*	*1680·0*	*2195·8*	*1245*	*100·0*	*882·6*	*423·9*	*812·2*	*1680·0*	*2195·8*
Tap water (as such, in beverages or recipes)	192·9	308·3	53·3	893·3	1333·3	678	54·5	354·2	342·6	250·0	1053·3	(1485·4)
Bottled water	498·1	429·4	480·0	1246·7	1900·0	984	79·0	630·2	387·3	586·7	1346·7	1946·7
Coffee, tea, herbal tea and substitutes	138·3	113·3	115·8	355·0	536·7	1188	95·4	144·9	111·7	120·0	360·8	540·0
Fruit and vegetable juices	29·7	68·0	1·5	170·0	309·7	698	56·1	52·9	83·8	6·8	203·5	(334·8)
Other soft drinks	23·7	61·6	0·0	141·7	266·7	259	20·8	113·9	89·5	106·7	266·7	(480·0)
Miscellaneous	*3·3*	*3·9*	*2·4*	*10·6*	*17·3*	*982*	*78·9*	*4·2*	*3·9*	*2·9*	*11·2*	*20·4*
Total amount of foods and beverages†	*2087·2*	*587·1*	*2039·3*	*3133·8*	*3607·7*	*1245*	*100·0*	*2087·2*	*587·1*	*2039·3*	*3133·8*	*3607·7*
Total amount of liquid foods	1053·8	430·5	990·8	1912·0	2375·3	1245	100·0	1053·8	430·5	990·8	1912·0	2375·3
Total amount of solid foods	1033·9	278·7	1029·1	1459·3	1846·2	1245	100·0	1033·9	278·7	1029·1	1459·3	1846·2

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 10 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – elderly (≥65 years), males: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 202)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*283·2*	*101·7*	*269·9*	*466·0*	*(597·4)*	*202*	*100·0*	*283·2*	*101·7*	*269·9*	*466·0*	*(597·4)*
Bread	137·6	90·8	120·0	298·9	(447·6)	195	96·5	142·5	88·5	120·0	300·0	(455·0)
Pasta and pasta substitutes	61·1	31·1	61·2	109·6	(129·8)	192	95·0	64·3	28·5	62·7	116·5	(131·2)
Pizza	4·6	17·5	0·0	33·3	(112·5)	18	8·9	51·9	31·9	39·6	(116·7)	(116·7)
Rice	17·2	25·1	0·0	67·8	(97·1)	90	44·6	38·7	24·2	33·9	(86·8)	(156·6)
Wheat, other cereals and flours	27·2	30·4	16·9	79·3	(109·9)	158	78·2	34·8	30·4	28·0	(87·7)	(167·7)
Breakfast cereals	0·5	3·3	0·0	0·0	(21·0)	6	3·0	17·6	8·3	17·5	(30·0)	(30·0)
Biscuits	10·4	18·9	0·0	50·7	(73·7)	84	41·6	24·9	22·3	18·7	(63·3)	(133·3)
Savoury fine bakery products	10·3	18·7	0·0	40·0	(100·0)	81	40·1	25·6	21·8	16·7	(72·0)	(108·3)
Cakes and sweet snacks	14·3	28·9	0·0	62·5	(114·6)	56	27·7	51·6	33·0	41·7	(114·6)	(208·3)
Pulses, fresh and processed	*14·1*	*27·5*	*0·0*	*59·7*	*(133·7)*	*80*	*39·6*	*35·6*	*33·9*	*23·2*	*(79·7)*	*(205·0)*
Vegetables, fresh and processed	*243·5*	*120·8*	*221·9*	*440·8*	*(605·2)*	*202*	*100·0*	*243·5*	*120·8*	*221·9*	*440·8*	*(605·2)*
Leafy vegetables, fresh	57·2	68·8	38·7	178·6	(243·3)	184	91·1	62·8	69·6	41·7	181·0	(261·6)
Tomatoes, fresh	41·5	44·4	30·3	122·3	(167·6)	164	81·2	51·1	43·9	39·5	133·3	(253·1)
Other fruiting vegetables, fresh	32·0	52·0	7·5	153·7	(194·0)	145	71·8	44·6	56·7	20·0	(167·4)	(206·0)
Roots and onions, fresh	23·9	24·2	15·1	77·6	(99·8)	201	99·5	24·1	24·2	15·3	77·6	(99·8)
Other vegetables, fresh	45·0	49·3	28·9	148·8	(185·8)	175	86·6	51·9	49·4	42·6	153·2	(231·1)
Vegetables, processed	41·7	36·9	37·8	110·7	(154·6)	166	82·2	50·8	34·6	41·7	118·1	(191·7)
Spices and herbs	2·2	3·2	1·2	6·7	(12·8)	171	84·7	2·5	3·4	1·6	7·4	(23·9)
Potatoes, tubers and their products	*61·3*	*57·1*	*56·6*	*165·1*	*(222·3)*	*155*	*76·7*	*79·9*	*52·5*	*65·4*	*(166·1)*	*(232·8)*
Fruit, fresh and processed	*260·3*	*193·9*	*241·1*	*519·3*	*(996·7)*	*195*	*96·5*	*269·7*	*190·8*	*244·7*	*522·7*	*(1384·0)*
Citrus fruit, fresh	52·0	84·4	2·0	242·7	(368·0)	107	53·0	98·2	94·6	60·7	(303·3)	(384·7)
Exotic fruit, fresh	14·3	27·0	0·0	66·7	(117·9)	69	34·2	41·9	31·3	33·3	(100·0)	(166·7)
Other fruit, fresh	189·3	181·0	150·0	460·0	(908·0)	180	89·1	212·4	178·4	168·8	482·2	(996·7)
Nuts, seeds, olives and their products, dried fruit	3·7	10·6	0·0	19·7	(42·3)	58	28·7	12·8	16·6	7·4	(42·3)	(112·0)
Other processed fruit (in syrup, in purée, etc.)	1·0	9·8	0·0	0·0	(25·0)	5	2·5	41·4	52·3	25·0	(126·7)	(126·7)
Meat, meat products and substitutes	*117·8*	*62·3*	*113·9*	*225·2*	*(265·8)*	*202*	*100·0*	*117·8*	*62·3*	*113·9*	*225·2*	*(265·8)*
Beef and veal, not preserved, excl. offal	51·9	44·5	43·0	136·0	(169·6)	157	77·7	66·8	39·3	62·2	(145·2)	(184·8)
Pork, not preserved, excl. offal	11·5	24·5	0·0	46·9	(121·7)	71	35·1	32·6	32·0	25·0	(82·1)	(195·9)
Poultry and game, not preserved, excl. offal	20·5	30·7	0·0	83·3	(114·2)	79	39·1	52·4	27·1	48·8	(111·2)	(168·7)
Other meats, not preserved, excl. offal	7·2	24·0	0·0	52·0	(131·6)	22	10·9	66·3	37·4	51·3	(131·6)	(134·3)
Ham, salami, sausages and other preserved meats, excl. offal	24·7	24·3	20·0	71·2	(104·2)	162	80·2	30·7	23·5	26·5	73·7	(107·9)
Offal, blood and their products	1·9	9·9	0·0	0·0	(57·5)	10	5·0	38·6	24·7	35·3	(83·3)	(83·3)
Meat substitutes	0·1	1·8	0·0	0·0	(0·0)	1	0·5	25·0	–	25·0	(25·0)	(25·0)
Fish, seafood and their products	*48·0*	*52·0*	*37·5*	*150·0*	*(201·2)*	*144*	*71·3*	*67·4*	*49·9*	*57·2*	*(165·1)*	*(206·7)*
Fish and seafood, fresh and frozen	42·2	51·0	30·0	141·9	(200·3)	121	59·9	70·5	48·4	57·5	(150·0)	(201·2)
Fish and seafood, preserved	5·8	11·5	0·0	31·3	(45·2)	60	29·7	19·5	13·4	17·8	(45·1)	(52·1)
Milk, milk products and substitutes	*188·0*	*129·0*	*176·7*	*405·7*	*(568·3)*	*200*	*99·0*	*189·8*	*128·2*	*178·0*	*412·8*	*(581·7)*
Milk, milk-based beverages, human milk, infant formula and substitutes	119·7	110·5	112·5	281·9	(407·5)	158	78·2	153·0	102·4	150·0	(323·7)	(500·0)
Yoghurt and fermented milk	10·6	31·0	0·0	83·3	(125·0)	26	12·9	82·4	39·9	83·3	(125·0)	(150·0)
Cheese and substitutes	57·0	39·9	51·7	133·0	(170·7)	195	96·5	59·0	39·1	52·5	134·8	(181·1)
Milk-based desserts and substitutes	0·7	4·8	0·0	0·0	(31·3)	8	4·0	17·9	17·3	7·6	(50·0)	(50·0)

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Table 10 *Continued*

Food categories	Total population (*n* 202)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*43·8*	*15·6*	*43·8*	*67·8*	*(90·2)*	*202*	*100·0*	*43·8*	*15·6*	*43·8*	*67·8*	*(90·2)*
Olive oil	37·9	14·7	36·9	62·2	(72·9)	202	100·0	37·9	14·7	36·9	62·2	(72·9)
Other vegetable oils	1·6	3·6	0·0	7·3	(15·0)	52	25·7	6·2	4·6	5·0	(15·0)	(30·0)
Butter and creams	3·9	5·9	0·0	16·0	(23·7)	99	49·0	7·9	6·3	6·3	(20·5)	(34·6)
Other fats	0·4	1·6	0·0	3·3	(6·7)	21	10·4	4·2	3·1	3·3	(10·7)	(13·1)
Eggs	*23·2*	*26·5*	*16·6*	*72·2*	*(114·6)*	*151*	*74·8*	*31·1*	*26·4*	*23·3*	*(80·1)*	*(133·7)*
Alcoholic beverages and substitutes	*177·7*	*172·9*	*160·0*	*480·0*	*(666·8)*	*177*	*87·6*	*202·9*	*170·3*	*180·0*	*560·0*	*(680·1)*
Regular wine and substitutes	164·2	158·7	160·0	480·0	(560·0)	174	86·1	190·6	155·6	166·7	480·0	(600·0)
Beer, cider and substitutes	12·1	47·0	0·0	110·0	(220·0)	17	8·4	143·8	87·6	133·3	(400·0)	(400·0)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	1·4	6·3	0·0	13·3	(40·0)	26	12·9	11·1	14·5	3·8	(40·0)	(40·0)
Sweet products and substitutes	*28·9*	*29·8*	*22·8*	*82·3*	*(143·3)*	*183*	*90·6*	*31·9*	*29·7*	*24·5*	*82·7*	*(174·7)*
Ice cream, ice lolly and substitutes	5·3	21·3	0·0	33·3	(100·0)	20	9·9	53·7	45·5	33·3	(172·9)	(179·2)
Chocolate and substitutes	1·0	3·4	0·0	6·0	(16·7)	29	14·4	6·9	6·6	4·2	(18·0)	(33·3)
Candies, jam and other sweet products (incl. sugar-free)	3·6	10·6	0·0	25·7	(46·7)	37	18·3	19·7	17·3	15·0	(63·3)	(72·9)
Sugar, fructose, honey and other nutritious sweeteners	18·7	16·9	16·0	46·8	(64·7)	170	84·2	22·2	16·1	18·7	49·6	(77·3)
Cocoa and cocoa-based powder	0·2	2·1	0·0	0·0	(5·1)	9	4·5	5·2	8·9	1·9	(28·0)	(28·0)
Artificial sweeteners	0·1	0·5	0·0	0·1	(2·9)	13	6·4	1·6	1·5	1·3	(4·2)	(4·2)
Meal substitutes	Not consumed					0	0·0	Not consumed				
Water and other non-alcoholic beverages	*762·2*	*388·3*	*722·2*	*1507·9*	*(2026·7)*	*202*	*100·0*	*762·2*	*388·3*	*722·2*	*1507·9*	*(2026·7)*
Tap water (as such, in beverages or recipes)	226·5	349·8	95·0	872·1	(1677·9)	126	62·4	363·1	383·0	238·7	(1260·0)	(1680·0)
Bottled water	383·8	375·1	326·7	1013·3	(1333·3)	140	69·3	553·7	329·6	533·3	(1066·7)	(1653·3)
Coffee, tea, herbal tea and substitutes	130·1	142·4	100·0	333·3	(540·0)	193	95·5	136·2	142·8	100·0	346·7	(560·0)
Fruit and vegetable juices	15·7	50·0	0·0	133·3	(202·9)	92	45·5	34·5	69·8	4·5	(200·0)	(466·7)
Other soft drinks	6·1	25·4	0·0	53·3	(120·0)	15	7·4	82·7	49·7	53·3	(213·3)	(213·3)
Miscellaneous	*3·2*	*4·0*	*2·2*	*10·0*	*(16·0)*	*159*	*78·7*	*4·1*	*4·1*	*2·9*	*(12·0)*	*(20·4)*
Total amount of foods and beverages†	*2255·7*	*587·6*	*2165·3*	*3231·2*	*(3817·3)*	*202*	*100·0*	*2255·7*	*587·6*	*2165·3*	*3231·2*	*(3817·3)*
Total amount of liquid foods	1061·5	394·9	1010·3	1843·8	(2143·3)	202	100·0	1061·5	394·9	1010·3	1843·8	(2143·3)
Total amount of solid foods	1194·2	313·1	1176·0	1662·0	(2230·1)	202	100·0	1194·2	313·1	1176·0	1662·0	(2230·1)

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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Table 11 Mean, standard deviation, median and high percentiles of individual daily consumption (3 d average) by food category in the total population and in consumers (g/d) – elderly (≥65 years), females: Italian National Food Consumption Survey INRAN-SCAI 2005–06

	Total population (*n* 316)					Consumers						
Food categories	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Cereals, cereal products and substitutes	*228·3*	*91·6*	*220·7*	*386·9*	*(519·8)*	*316*	*100·0*	*228·3*	*91·6*	*220·7*	*386·9*	*(519·8)*
Bread	102·1	73·6	90·0	240·0	(315·0)	292	92·4	110·5	70·2	90·3	240·0	(320·0)
Pasta and pasta substitutes	50·7	28·6	49·9	100·6	(117·4)	294	93·0	54·5	25·9	52·5	100·9	(121·5)
Pizza	4·1	17·5	0·0	25·0	(116·7)	25	7·9	52·3	37·6	33·3	(125·0)	(150·0)
Rice	17·9	30·0	0·0	83·3	(166·7)	136	43·0	41·6	33·2	30·4	(104·2)	(166·7)
Wheat, other cereals and flours	18·9	22·2	9·8	61·6	(90·0)	232	73·4	25·8	22·2	19·3	64·3	(97·7)
Breakfast cereals	0·7	3·9	0·0	0·0	(25·0)	14	4·4	16·9	9·1	15·0	(30·0)	(30·0)
Biscuits	12·3	16·3	5·2	46·3	(66·7)	163	51·6	23·9	15·4	20·0	53·3	(78·8)
Savoury fine bakery products	11·7	18·6	0·0	43·3	(83·3)	147	46·5	25·2	20·1	20·9	(66·7)	(102·7)
Cakes and sweet snacks	9·7	19·8	0·0	52·1	(83·3)	85	26·9	36·1	22·6	34·1	(73·6)	(136·1)
Pulses, fresh and processed	*9·9*	*18·9*	*0·0*	*52·5*	*(77·1)*	*104*	*32·9*	*30·2*	*21·7*	*23·2*	*(73·5)*	*(97·2)*
Vegetables, fresh and processed	*210·6*	*108·9*	*192·8*	*413·7*	*(499·8)*	*314*	*99·4*	*211·9*	*107·9*	*193·8*	*413·7*	*(499·8)*
Leafy vegetables, fresh	50·8	56·1	33·8	153·6	(263·3)	281	88·9	57·1	56·4	40·5	166·7	(272·2)
Tomatoes, fresh	36·6	38·3	25·0	116·3	(149·0)	244	77·2	47·4	37·2	39·1	117·7	(150·0)
Other fruiting vegetables, fresh	32·4	50·0	8·1	147·0	(231·3)	200	63·3	51·2	54·7	34·3	172·5	(249·7)
Roots and onions, fresh	20·8	24·5	11·6	77·6	(108·8)	308	97·5	21·3	24·6	12·4	77·6	(108·8)
Other vegetables, fresh	36·9	48·9	15·8	131·4	(229·2)	264	83·5	44·2	50·4	26·2	141·3	(235·3)
Vegetables, processed	31·5	29·6	31·5	84·0	(128·9)	240	75·9	41·4	27·2	33·4	92·8	(137·1)
Spices and Hherbs	1·6	2·6	0·8	6·1	(8·9)	248	78·5	2·1	2·8	1·2	6·5	(8·9)
Potatoes, tubers and their products	*50·8*	*55·0*	*41·5*	*155·8*	*(238·3)*	*228*	*72·2*	*70·3*	*53·1*	*58·6*	*166·7*	*(244·7)*
Fruit, fresh and processed	*268·3*	*165·9*	*241·6*	*564·0*	*(753·3)*	*305*	*96·5*	*278·0*	*160·7*	*250·0*	*564·0*	*(753·3)*
Citrus fruit, fresh	54·5	97·2	0·0	242·7	(421·3)	156	49·4	110·4	113·9	68·7	(366·0)	(640·0)
Exotic fruit, fresh	11·9	22·2	0·0	66·7	(100·0)	96	30·4	39·0	23·6	33·3	(100·0)	(106·7)
Other fruit, fresh	199·7	150·5	168·0	476·0	(695·3)	290	91·8	217·7	144·2	178·7	489·3	(723·0)
Nuts, seeds, olives and their products, dried fruit	2·2	6·5	0·0	13·3	(21·4)	72	22·8	9·7	10·7	7·4	(21·4)	(64·0)
Other processed fruit (in syrup, in purée, etc.)	0·0	0·1	0·0	0·0	(0·0)	3	0·9	1·3	0·6	1·3	(1·9)	(1·9)
Meat, meat products and substitutes	*88·0*	*46·0*	*83·2*	*171·6*	*(224·9)*	*308*	*97·5*	*90·3*	*44·3*	*84·2*	*171·6*	*(224·9)*
Beef and veal, not preserved, excl. offal	35·2	31·6	33·3	96·9	(124·1)	228	72·2	48·8	26·8	41·9	99·0	(133·0)
Pork, not preserved, excl. offal	7·2	16·4	0·0	46·9	(58·6)	76	24·1	30·0	21·0	33·5	(58·6)	(93·8)
Poultry and game, not preserved, excl. offal	22·0	28·8	0·0	83·4	(103·7)	145	45·9	47·9	23·8	38·9	(98·9)	(135·4)
Other meats, not preserved, excl. offal	5·2	18·5	0·0	49·4	(105·2)	29	9·2	57·0	28·6	49·4	(115·2)	(120·8)
Ham, salami, sausages and other preserved meats, excl. offal	17·6	20·4	13·3	58·7	(91·7)	218	69·0	25·6	20·0	20·0	71·8	(100·0)
Offal, blood and their products	0·7	4·9	0·0	0·0	(25·0)	8	2·5	25·8	18·0	25·0	(50·0)	(50·0)
Meat substitutes	0·1	1·9	0·0	0·0	(0·0)	1	0·3	33·3	–	33·3	(33·3)	(33·3)
Fish, seafood and their products	*32·9*	*39·6*	*16·7*	*110·0*	*(137·7)*	*185*	*58·5*	*56·2*	*37·1*	*50·0*	*120·9*	*(200·3)*
Fish and seafood, fresh and frozen	28·6	37·8	0·0	108·0	(132·0)	152	48·1	59·5	33·6	50·0	(120·9)	(196·3)
Fish and seafood, preserved	4·3	9·8	0·0	26·5	(47·8)	78	24·7	17·4	12·8	16·7	(47·8)	(58·4)
Milk, milk products and substitutes	*199·6*	*125·4*	*195·0*	*421·1*	*(480·1)*	*313*	*99·1*	*201·5*	*124·4*	*196·3*	*421·1*	*(480·1)*
Milk, milk-based beverages, human milk, infant formula and substitutes	129·9	106·0	135·0	314·0	(377·6)	254	80·4	161·6	94·0	165·0	330·0	(395·4)
Yoghurt and fermented milk	18·9	48·5	0·0	125·0	(166·7)	68	21·5	87·9	69·9	83·3	(166·7)	(531·7)
Cheese and substitutes	49·9	40·1	42·6	122·2	(171·2)	305	96·5	51·7	39·7	43·7	122·2	(171·2)
Milk-based desserts and substitutes	0·9	6·7	0·0	0·0	(33·3)	10	3·2	27·8	26·9	20·8	(83·3)	(83·3)

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Table 11 *Continued*

Food categories	Total population (*n* 316)					Consumers						
	Mean	SD	Median	95th*	99th*	*n*	%	Mean	SD	Median	95th*	99th*
Oils and fats	*34·3*	*14·1*	*31·9*	*59·3*	*(77·9)*	*315*	*99·7*	*34·4*	*14·0*	*32·0*	*59·3*	*(77·9)*
Olive oil	29·3	12··4	28·2	51·9	(62·8)	315	99·7	29·4	12·3	28·2	51·9	(62·8)
Other vegetable oils	0·9	2·5	0·0	6·1	(10·0)	55	17·4	5·4	3·5	4·7	(10·0)	(25·5)
Butter and creams	3·6	5·8	0·0	15·6	(25·6)	146	46·2	7·8	6·4	5·7	(21·3)	(30·6)
Other fats	0·4	2·1	0·0	2·7	(12·2)	24	7·6	5·7	5·2	2·8	(16·0)	(16·4)
Eggs	*18·8*	*19·7*	*13·1*	*54·3*	*(71·6)*	*224*	*70·9*	*26·5*	*18·5*	*20·4*	*58·6*	*(77·7)*
Alcoholic beverages and substitutes	*60·2*	*98·1*	*0·0*	*240·1*	*(420·0)*	*210*	*66·5*	*90·6*	*108·4*	*60·0*	*300·0*	*(453·3)*
Regular wine and substitutes	56·6	95·5	0·0	240·1	(420·0)	203	64·2	88·1	106·9	60·0	280·0	(453·3)
Beer, cider and substitutes	3·2	20·7	0·0	0·0	(110·0)	9	2·8	110·7	59·1	110·0	(240·0)	(240·0)
Sweet wine, spumante, wine-based appetizers, spirits and liquors	0·4	2·9	0·0	0·1	(13·3)	23	7·3	5·6	9·4	0·7	(16·7)	(40·0)
Sweet products and substitutes	*26·8*	*26·1*	*21·2*	*81·8*	*(121·7)*	*281*	*88·9*	*30·2*	*25·7*	*24·0*	*82·3*	*(127·7)*
Ice cream, ice lolly and substitutes	5·8	18·7	0·0	44·0	(83·3)	39	12·3	47·0	30·0	33·3	(123·3)	(153·3)
Chocolate and substitutes	0·9	5·1	0·0	5·1	(17·4)	34	10·8	8·4	13·6	4·3	(26·5)	(78·0)
Candies, jam and other sweet products (incl. sugar-free)	2·9	7·5	0·0	20·0	(33·3)	74	23·4	12·4	11·0	9·7	(33·3)	(50·0)
Sugar, fructose, honey and other nutritious sweeteners	16·8	14·1	16·0	40·0	(61·3)	257	81·3	20·6	12·8	18·7	44·0	(64·3)
Cocoa and cocoa-based powder	0·4	2·0	0·0	0·8	(11·1)	18	5·7	7·0	5·2	5·8	(19·3)	(19·3)
Artificial sweeteners	0·0	0·3	0·0	0·1	(1·3)	21	6·6	0·7	0·7	0·4	(2·0)	(2·5)
Meal substitutes	Not consumed					0	0·0					
Water and other non-alcoholic beverages	*807·9*	*339·2*	*771·1*	*1450·0*	*(1864·4)*	*316*	*100·0*	*807·9*	*339·2*	*771·1*	*1450·0*	*(1864·4)*
Tap water (as such, in beverages or recipes)	267·9	329·9	142·5	949·3	(1405·0)	221	69·9	383·1	333·9	285·0	1013·3	(1440·0)
Bottled water	374·9	353·0	360·0	960·0	(1280·0)	213	67·4	556·2	289·5	533·3	1120·0	(1333·3)
Coffee, tea, herbal tea and substitutes	130·3	111·3	102·5	360·0	(500·0)	296	93·7	139·1	109·6	112·5	365·0	(506·7)
Fruit and vegetable juices	26·3	67·5	0·0	166·7	(268·8)	150	47·5	55·5	89·5	8·0	(250·0)	(473·1)
Other soft drinks	8·5	41·3	0·0	53·3	(240·0)	20	6·3	134·2	102·9	106·7	(353·3)	(386·7)
Miscellaneous	*2·6*	*3·3*	*1·3*	*8·4*	*(15·3)*	*259*	*82·0*	*3·2*	*3·4*	*2·3*	*8·6*	*(19·5)*
Total amount of foods and beverages†	*2039·6*	*521·9*	*2011·5*	*3028·5*	*(3302·6)*	*316*	*100·0*	*2039·6*	*521·9*	*2011·5*	*3028·5*	*(3302·6)*
Total amount of liquid foods	1000·0	354·2	963·6	1683·7	(2058·7)	316	100·0	1000·0	354·2	963·6	1683·7	(2058·7)
Total amount of solid foods	1039·2	293·7	1012·2	1551·7	(1895·1)	316	100·0	1039·2	293·7	1012·2	1551·7	(1895·1)

*High percentiles of consumption assessed on the basis of a 3 d survey provide an overestimate of long-term high levels of consumption. Values are enclosed in parentheses when the number of subjects to which they refer is lower than 160 and 800 for the 95th and 99th percentile, respectively, since these values bear a large uncertainty and provide only a rough indication of high levels of consumption.
†All beverages and milk in liquid state were classified as liquid foods; all other items were classified as solid foods.

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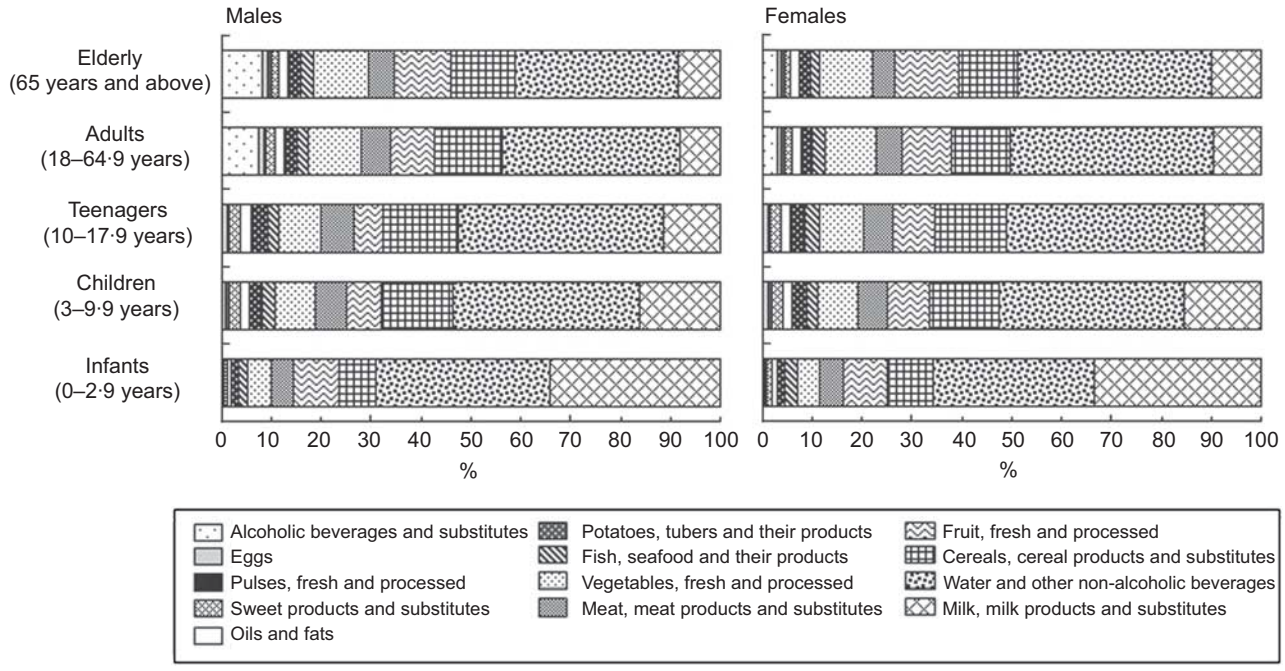

Fig. 2 Consumption pattern by age and sex: percentage contribution (in weight) of each food category* to the total amount of food and beverages in the Italian National Food Consumption Survey INRAN-SCAI 2005–06.
*The contribution of 'Meal substitutes' and of 'Miscellaneous' is not reported. It was less than 0·2 % in all age and sex classes. Statistically significant differences ($P < 0·05$; Kruskal–Wallis test) were found among age classes in all reported food categories, except for 'Fish, seafood and their products' in males and for 'Pulses, fresh and processed' in males and females. Statistically significant differences between sex ($P < 0·05$; Kruskal–Wallis test) were found only among adults and the elderly: in adults for 'Cereals, cereals products and substitutes', 'Fruit, fresh and processed', 'Meat, meat products and substitutes', 'Milk, milk products and substitutes', 'Oils and fats', 'Alcoholic beverages and substitutes', 'Eggs' and 'Water and other non alcoholic beverages'; in the elderly for 'Cereals, cereals products and substitutes', 'Fruit, fresh and processed', 'Meat, meat products and substitutes', 'Fish, seafood and their products', 'Milk, milk products and substitutes', 'Oils and fats', 'Alcoholic beverages and substitutes' and 'Water and other non-alcoholic beverages'

under-reporting. Individual dietary surveys conducted in European countries from 1980 to 2001 show participation rates varying from 36 % to 86 %[13]. More recent surveys performed among adults in Ireland[14], The Netherlands[15] and the UK[16] showed a participation rate of respectively 63 %, 42 % and 63 %.

The low participation rate could have affected the representativity of the study sample. However, the low percentage of subjects who declared to follow a specific diet during the food survey (6 %) suggests that no important selection of health-conscious subjects occurred. Moreover, the distribution in age and sex classes compares well with the segmentation of the Italian population in 2006 as described by ISTAT[17]. Females are slightly over-represented (55 % *v.* 51 % according to ISTAT), whereas children aged less than 3 years of age (2 % *v.* 4 % according to ISTAT) and elderly subjects (16 % *v.* 20 % according to ISTAT) are slightly under-represented. The education level of the study sample is high, with 56 % of subjects aged 11 years or more having a high school or university degree *v.* 35 % the Italian population as described by ISTAT[18].

Dietary assessment technique

The INRAN-DIARIO3.1[9] management system permitted a multi-operator data entry and food codification and at the same time ensured reliable data and a high level of standardization of the field workers' procedures.

The fact that the field workers met each subject three times and carefully checked every single entry helped to reduce errors such as misreporting and omissions. However, comparison of mean EI:BMR_{est} with the cut-off values derived by Goldberg *et al.*[19] for adults (99·7 % confidence interval) suggests that a certain level of under-reporting occurred in this sample and in particular in males. It is noteworthy that these cut-off values are based on the assumption of a PAL of 1·55, which includes desirable physical activity for sedentary adults[10]. It may therefore overestimate effective PAL of the adult Italian population. Moreover, EI:BMR_{est} was lower in adult males, where a higher proportion of obese subjects were found. This may be due to the notorious higher degree of under-reporting in obese individuals but also to an overestimate of their BMR, leading to an overestimate of under-reporting. In fact, BMR_{est} based on current body weight may overestimate true BMR in obese individuals since fat body mass is less metabolically active.

No cut-off values for EI:BMR_{est} are available in the literature for the other age classes of the study sample. The observed EI:EE in elderly males and in infants, children and teenagers of both sexes ranged from 0·98 to 1·04

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(Table 2), suggesting that no gross under-reporting occurred in these groups. The highest apparent level of under-reporting was in adult males and females and in elderly females.

In the absence of information on the individual activity level of subjects that would allow us to identify under-reporters, no subject was excluded from further analysis. The same decision was taken in the national survey conducted in Ireland in 1997–99[20], in which a comparable mean EI:BMR_{est} was observed in adult males and females (1·38).

Food classification

A detailed list of food items included in each category is provided in the Appendix to ensure a correct interpretation of data.

A number of cereal products such as plain pizza with tomato and biscuits were classified as cereal products, whereas they also contain other ingredients (fats, eggs, tomatoes, sugar, etc.). Other cereal products (e.g. pizza with a variety of ingredients, most cakes, some fresh pasta and gnocchi) were handled as recipes and disaggregated into flour and other ingredients. Therefore, consumption values reported in the subcategories 'Pizza', 'Pasta' and 'Cakes and sweet snacks' are underestimates. On the other hand, when food items are classified in a subcategory such as 'Biscuits', this leads to an underestimate of the consumption of single ingredients such as flour and sugar in their respective food categories.

The subcategory 'Sugar' is related to discretionary sugar (e.g. added by the respondents in coffee) plus sugar from home-made recipes. It does not include sugar present in composite foods such as soft drinks.

Data reported in the category 'Oils and fats' include discretionary fats added in a large number of recipes but do not include fats present in a number of composite foods. In Italy, each recipe is traditionally prepared with one specific fat: risotto would be prepared with butter, whereas most sauces used with pasta would be prepared with olive oil. Subjects were asked to report the main ingredients of the recipes on the diaries and standard recipes would generally be used. The proportion of olive oil among vegetable oils in the present survey (93 %) has probably been slightly overestimated. According to data from the Institute for Agricultural Market Studies (ISMEA)[21], in the year 2004, olive oil represented 84 % of the total household purchases of vegetable fats in Italy.

Food consumption pattern

Detailed analyses of the present survey in relation to public health nutrition issues will be performed in the future. As a first step, some of the results can be compared with those population goals established for the prevention of chronic diseases which are expressed in terms of food.

The overall individual consumption of fruit and vegetables in the whole study sample was 208 g/d and 210 g/d, respectively, meeting the minimum population goal of 400 g of fruit and vegetables daily established by FAO/WHO[22].

A goal was recently set for the population average consumption of red meat (beef, pork, lamb and goat from domesticated animals, including that contained in processed foods): it should be less than 300 g/week as cooked meat (approximately 400–450 g as raw weight) for the prevention of colorectal cancer[23]. Overall consumption of red meat in the study sample was obtained by adding up fresh beef and veal (42·7 g/d), fresh pork (12·7 g/d), other red meats such as lamb and horse ($\sim$5 g/d) and preserved pork and beef (28 g/d, corresponding to approximately 40 g of raw weight). Overall, the estimated consumption of red meat as raw weight was approximately 700 g/week in the study sample, i.e. significantly higher than the goal.

Choice of descriptive statistics

Food consumption data are often used to characterize average and high levels of consumption within the population. In the case of food categories which are rarely consumed (either consumed by a limited number of individuals in the population or consumed infrequently by all individuals), due to the large number of non-consumers, very low mean values are obtained and the median can be 0. It is therefore important to complement the description of food consumption with that of consumption in the selected sample of 'consumers' only.

High levels of consumption were described by providing the 95th and the 99th percentile of the distribution, both in the total population and in consumers only. High percentiles are often needed to estimate dietary exposure to a specific chemical or agent present in food within the process of risk analysis, but caution is needed in the interpretation and use of data due to the short duration of the survey (3 d). In fact, the observed high percentiles of consumption provide an overestimate of long-term high levels of consumption for many food categories whereas the percentage of consumers provides an underestimate of the long-term percentage of consumers.

The reliability of high percentiles is related to the number of subjects used to calculate them. According to Kroes *et al.*[24], a high percentile P (expressed as fraction) can be assessed with sufficient precision if the sample size n satisfies the rule $n(1-P) \geq 8$. Thus, in Tables 3–11, high percentiles are reported in parentheses when the number of subjects was lower than 160 (for the 95th percentile) or lower than 800 (for the 99th percentile) to spot the high percentile values which bear a high uncertainty.

Conclusion

The present paper provides the main results of the Italian National Food Consumption Survey INRAN-SCAI 2005–06 for use both at national and international level. The database obtained from this survey will be the key reference for

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Italian food consumption in the coming years and will be utilized for a variety of purposes including the assessment of nutrient intake and risk analysis.

Some specific aspects of the Italian food consumption pattern are confirmed: a very large contribution from olive oil to fats, a large contribution from wine to alcoholic beverages and a large contribution from bread, pasta and pizza to cereals. The observed high level of consumption of red meat deserves attention.

Acknowledgements

Sources of funding: The INRAN-SCAI 2005–06 survey was funded by the Italian Ministry of Agriculture, project 'Qualità alimentare'. *Conflict of interest declaration:* The authors declare that they have no conflicts of interest. *Authorship responsibilities:* A.T. was the coordinator of INRAN-SCAI 2005–06; C.L. was responsible for the data management system of food diaries and wrote the manuscript; D.A. was responsible for the design of the dietary survey; R.P. was responsible for the management of diaries; S.S. carried out the descriptive data analyses; and C.L.D. developed the dietary assessment tools. All co-authors were involved in the interpretation of results and manuscript revision, and all co-authors approved the final version. The whole INRAN-SCAI 2005–06 Study Group was involved in the preparation of dietary assessment tools, in the training and day-to-day support of field workers, in the data checking and in updating the databases. *Acknowledgments:* The authors are most thankful to the Italian households who participated to the study and to the field workers: C. Aceto, A. Amoroso, L. Berardini, A. Bertolini, F. Bozzo, M.T. Caprile, E. Cravea, F. Del Greco, N. Donati, P. Gasperoni, R. Gaviglia, T. Gaviglia, E. Giorgeri, R. Ienco, E. Innocenti, U. Margiotta, E. Milesi, S. Mollichelli, E. Moratti, S. Notarnicola, G. Parrino, M. Pasi, R. Pastorini, E. Perrelli, P. Perrucci, C. Sedini, S. Silvestri, F. Simonetti, P. Succi, J. Tabacchi and P. Zaganelli. The authors also express their gratitude to Ager-Agro Ambiente Italia and in particular to G. Massimiliani and E. Sauda for the very positive collaboration. The great competence and availability of D. Berardi (DASC sas) who developed the data management system was highly appreciated. P. Buonocore was helpful in the preparation of the manuscript.

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Appendix

Food items included in food categories: Italian National Food Consumption Survey INRAN-SCAI 2005–06

Food categories	List of single food items and of composite food items classified in the food category	Most frequent minor ingredients from other food categories present in composite foods
Cereals, cereal products and substitutes		
Bread	All types of bread prepared with any type of flour (wheat, whole wheat, soya, maize, etc.), speciality breads, sponge bread, excl. breadcrumbs and toasted bread	Milk and fats in speciality breads; soya in soya bread
Pasta and pasta substitutes	All types of pasta, incl. rice noodles, fresh pasta with eggs, tortellini (fresh pasta with meat filling) and pasta for infants, puff pastry dough	Meat in tortellini; eggs in fresh pasta; butter in puff pastry dough
Pizza	Plain white pizza, plain tomato pizza, excl. other pizzas which were codified through recipes	Tomato in plain tomato pizza; oil in plain white pizza and plain tomato pizza
Rice	All types of rice, white and brown, excl. rice in commercial rice pudding	–
Wheat, other cereals and flours	All types of flour (wheat, corn, oat, couscous, millet, barley, rice, etc.) used in recipes (polenta, pizza, fresh pasta, cakes), breadcrumbs, baby cereals	Fruit in some baby cereals
Breakfast cereals	All types of ready-to-eat cereals (generally used at breakfast with milk): corn flakes, puffed wheat, dried and toasted rice, muesli, etc.	Dried fruit and nuts in muesli; sugar; cocoa
Biscuits	All types of sweet biscuits, incl. sugar-free biscuits, granulated biscuits for infants, gluten-free biscuits	Sugar; eggs; fats; cocoa; dried fruit and nuts
Savoury fine bakery products	All types of crackers, breadsticks, rusk, popcorn, salty appetizers and savoury biscuits	Fats
Cakes and sweet snacks	Sweet rolls, all types of cakes (plain, with chocolate, with fruit, with cream, etc.), sweet cereal-based snacks (e.g. bars)	Fats; eggs; fruit; milk
Pulses, fresh and processed	All types of pulses (fresh and processed): lentils, peas, chickpeas, all types of beans excl. green beans, soyabeans	–
Vegetables, fresh and processed		
Leafy vegetables, fresh	Chicory, lettuce, spinach, etc.	–
Tomatoes, fresh	Fresh tomatoes used in salad and other recipes (e.g. tomato sauce)	–
Other fruiting vegetables, fresh	Aubergine, pepper, cucumber, pumpkin, courgette, etc	–
Roots and onions, fresh	Onion, garlic, turnip-rooted celery, beetroot, daikon	–
Other vegetables, fresh	All other types of fresh vegetables: broccoli, cabbage, cauliflower, artichokes, asparagus, fennel, mushroom, green beans and palm heart	–
Vegetables, processed	Vegetable preserves (in vinegar, oil or brine), canned tomatoes, vegetable soup dehydrated, industrial mixed salad with mayonnaise, homogenized vegetables for infants	Eggs (in mayonnaise); oil (in oil preserves and mayonnaise); cereals and potatoes (in dehydrated soup); vinegar (in oil preserves)
Spices and herbs	Parsley, basil, rosemary, oregano, sesame seed, curry, ginseng, etc.	–

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Appendix *Continued*

Food categories	List of single food items and of composite food items classified in the food category	Most frequent minor ingredients from other food categories present in composite foods
Potatoes, tubers and their products	Potatoes raw, sweet potatoes, tapioca, potato chips, potato chips with cheese, potato croquettes, potato flakes dehydrated	Fats in all potato chips; cheese in some speciality potato chips; breading in potato croquettes
Fruit, fresh and processed		
Citrus fruit, fresh	Orange, lemon, grapefruit, tangerine, tangelo	–
Exotic fruit, fresh	Banana, cherimoya, avocado, papaya, mango, lychee	–
Other fruit, fresh	All other types of fruit: apple, pear, peach, apricot, grape, fig, melon, watermelon, strawberry, raspberry, pomegranate, plum, cherry, etc.	–
Nuts, seeds, olives and their products, dried fruit	Nuts roasted, dried, in powder or in purée (almond, chestnut, walnut, coconut, pine nut, peanut, pistachio), seeds (pumpkin seed) and all dried fruit (figs, plum, raisin), olives	–
Other processed fruit (in syrup, in purée, etc.)	All types of fruit in syrup (peach, apricot, pear, fruit cocktail. etc.), in syrup, fruit purée, minced fruit, incl. homogenized fruit for infants	Sugar
Meat, meat products and substitutes		
Beef and veal, not preserved, excl. offal	Beef, veal, homogenized meat for infants, industrial meat sauce	Tomato in industrial meat sauce; fats, cereals and tubers in homogenized baby food
Pork, not preserved, excl. offal	Pork meat, pork meat roasted (porchetta), foot pork raw, excl. offals	–
Poultry and game, not preserved, excl. offal	Pheasant, chicken, roast chicken, goose, quail, turkey, ostrich, incl. homogenized products for infants	Fats, cereals and tubers in homogenized baby food
Other meats, not preserved, excl. offal	Lamb, goat, mutton, kid, horse, donkey, lean deer, boar, rabbit, frog, land snail, incl. homogenized products for infants, excl. offals	Fats, cereals and tubers in homogenized baby food
Ham, salami, sausages and other preserved meats, excl. offal	Preserved meat from pork, chicken and turkey meat (ham, mortadella, sausages, wurstel, salami, etc.), roast beef, canned beef, dried beef or horse meat (bresaola), incl. homogenized products for infants	Fats, cereals and tubers in homogenized baby food
Offal, blood and their products	Liver, kidney, brain, trotter, heart, tripe, tongue, sweetbreads, blood and liver pâté	Fats in liver pâté
Meat substitutes	Seitan (wheat gluten), soya hamburger	Soya, wheat
Fish, seafood and their products		
Fish and seafood, fresh and frozen	All types of fish, molluscs, crustaceans, raw (fresh or frozen) and fish fingers	Breading on fish fingers
Fish and seafood, preserved	All types of preserved fish, molluscs, crustaceans and fish eggs (caviar, anchovies brined or in oil, tuna brined or in oil, smoked salmon, canned crab meat, cod dried and salted, smoked herring, etc.) incl. homogenized products for infants	Oil in oil preserves
Milk, milk products and substitutes		
Milk, milk-based beverages, human milk, infant formula and substitutes	All types of milk (liquid, condensed and powder form), incl. infant formulae, human milk and milk substitutes (e.g. soya, rice, oat), flavoured milk (e.g. packaged chocolate-flavoured milk)	Sugar in flavoured milk beverages; cocoa in flavoured milk beverages; soya, rice in milk substitutes
Yoghurt and fermented milk	Yoghurt, drinkable yoghurt, yoghurt-based dessert with fruit for infants	Sugar in yoghurt; fruit or cereals in yoghurt
Cheese and substitutes	All types of cheese (e.g. mozzarella, parmesan, edam, feta, fontina), flavoured sweet cheese for children, cheese substitutes (e.g. tofu), homogenized cheese products for infants	Fruit and sugar in flavoured cheese for children
Milk-based desserts and substitutes	Commercial milk-based desserts (e.g. mousse chocolate, custard, chantilly), incl. commercial creamy rice pudding (risolatte)	Sugar; milk cream; cocoa; rice in rice pudding
Oils and fats		
Olive oil	Extra-virgin olive oil, olive oil, incl. enriched type	–
Other vegetable oils	All type of vegetable oils, excl. olive oil	–
Butter and creams	Butter, cream, heavy cream	–
Other fats	Margarine all types, mayonnaise, lard, incl. soyabean butter	Eggs in mayonnaise

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Appendix *Continued*

Food categories	List of single food items and of composite food items classified in the food category	Most frequent minor ingredients from other food categories present in composite foods
Eggs	All types of eggs (chicken, duck, ostrich, etc.) excl. fish eggs	–
Alcoholic beverages and substitutes		
Regular wine and substitutes	All types of wine (red, white), 'non-alcoholic' wine, excl. sparkling wine	–
Beer, cider and substitutes	Beer all types, non-alcoholic beer	–
Sweet wine, spumante, wine-based appetizers, spirits and liquors	Sparkling wine, fortified wine (e.g. porto, cherry, vermouth, dessert wine sweet or dry, appetizer), spirits (e.g. grappa, brandy, whiskey), liquors (amaro, limoncello, etc.)	–
Sweet products and substitutes		
Ice cream, ice lolly and substitutes	All types of ice creams (with all possible flavours and ingredients), ice lolly	Milk in ice cream; soya in soya ice cream; fruit; eggs
Chocolate and substitutes	All types of chocolate (milk, white, cocoa 70–90 %, with hazelnuts, etc.), spreadable chocolate cream with or without hazelnuts, chocolate bars filled with mou	Milk in milk chocolate; nuts in some chocolate creams or bars; rice in some chocolate bars
Candies, jam and other sweet products (incl. sugar-free)	All types of candies (e.g. mou, fudge, fondant, different flavours), chewing gum, jam, marmalade, nougat with almonds, glazed chestnuts (marrons glacés), peanut brittle, sesame brittle, incl. sugar-free products	Nuts; seeds
Sugar, fructose, honey and other nutritious sweeteners	Honey, sugar, fructose, maple syrup, royal jelly	–
Cocoa and cocoa-based powder	Cocoa powder, mixed powder of cocoa with other ingredients, with or without sugar, with or without dehydrated milk	Sugar; milk
Artificial sweeteners	All types of table-top products containing artificial sweeteners (e.g. aspartame, saccharin) in tablets, powder or liquid	–
Meal substitutes	Meal replacements in liquid form and bar form	–
Water and other non-alcoholic beverages		
Tap water (as such, in beverages or recipes)	Tap water	–
Bottled water	All types of commercial bottled water	–
Coffee, tea, herbal tea and substitutes	All types of coffee (e.g. brewed, decaffeinated, 'espresso', powdered), all types of tea (powdered, brewed, deteinated) with or without sugar, herbal tea (e.g. chamomille), pearled barley coffee	Sugar in powders for the preparation of instant beverages
Fruit and vegetable juices	All types of fruit and vegetable juices (e.g. nectar, carrot juice, orange juice), with or without the addition of water, sugar and intense sweeteners, incl. fortified products	–
Other soft drinks	All types of carbonate beverages (e.g. cola, soda, ginger ale, orange, tonic water) with sugar or sugar-free, ice tea, ice herbal tea, energy drinks, sport drinks, syrups to be diluted (incl. almond milk)	–
Miscellaneous	Vinegar, ketchup, mustard sauce, meat cubes, bouillon cubes, yeast, leavening agents, soya sauce, sodium bicarbonate (used for household production of fizzy water from tap water)	Tomato and sugar in ketchup; meat in meat cubes
Liquid foods	All water and beverages, milk in liquid state, drinkable yoghurt	
Solid foods	All other food items incl. oil, dehydrated items (milk), powder for reconstitution of beverages, creamy desserts (yoghurt), sauces, etc.	

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