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Serving sizes and energy values on the nutrition labels of regular and *diet/light* processed and ultra-processed dairy products sold in Brazil

Introduction

The consumption of processed foods and foods from animal sources (especially processed animal products) (Monteiro et al., 2012) has increased in recent years compared to the consumption of unprocessed foods such as grains and legumes ([Popkin, 2011](#); WHO, 2013; [Malik et al., 2013](#)). Processed foods are made from natural ingredients while adding salt, sugar and/or fat and using techniques like smoking for preservation. On the other hand, ultra-processed foods are ready-to-eat and are mainly composed of industrial ingredients. These products have low nutritional value and fibre content but have a large amount of energy, refined carbohydrates, sodium, trans fatty acids, and/or saturated fatty acids (Monteiro et al., 2012).

In Brazil, the caloric contribution of processed and ultra-processed products increased between 1987 and 2009 (from 20% to 32% of total calories). During this period, the caloric share of cheese increased by about 64% ([Martins et al., 2013](#)). In a nationwide analysis of mean annual per capita household food purchases, the dairy products group (which includes milk, cheese, yogurt and other milk products) stood out as the second most purchased group - 44kg per capita (IBGE, 2010). Milk consumption was reported by 23% of Brazilian adults while the dairy product consumption was reported by 18%. The biggest consumers of milk and dairy products are adults over 60 years old ([Bezerra et al., 2014](#)).

Dairy products represent a food group that has important nutritional value, as such products are sources of high-quality proteins, lipids, vitamins and minerals, such as calcium. In addition, dairy consumption is related to a lower incidence of cardiovascular disease (Huth & Park, 2012) and cancer (Davoodi et al., 2013). It also improves metabolic syndrome

markers ([Dugan et al., 2014](#)) and prevents osteoporosis and osteopenia ([Rizzoli et al., 2014](#)). Thus, the consumption of dairy products is recommended by dietary guidelines around the world ([Weaver, 2014](#)). However, processing techniques have been used by the food industry that alter these foods' natural composition and nutritional profiles, turning them into processed and ultra-processed foods with high levels of added sugar, saturated fat and trans fatty acids ([Jahns & Kranz 2014](#)) whose consumption has been linked to an increase in various chronic diseases (Monteiro et al., 2012; WHO, 2013).

The increasing availability of processed and ultra-processed dairy products can be attributed to logistical improvements in cold chain food distribution by large supermarket chains ([Popkin; Adair; Ng, 2012](#)). The purchase of food in supermarkets has been prioritized ([Regmi et al., 2008](#)) because these sites offer convenience, variety, low prices and better safety and hygiene standards ([Popkin et al., 2012](#)). However, supermarkets have become reference points for a large volume of purchases of less perishable and easily stored foods, such as ultra-processed foods ([Hawkes, 2008](#)). In Brazil, half of the calories purchased for home consumption come from supermarkets, which are the main places where ultra-processed foods are purchased (Costa et al., 2013).

Nutrition labelling is one of several strategies and public health policies that aim to promote healthier food choices and more appropriate serving sizes (WHO, 2004; Monteiro et al., 2012; WHO, 2013). In Brazil, Board Resolution (RDC) No. 359/2003 of the National Health Surveillance Agency (ANVISA) regulates the serving size of each processed food in grams or millilitres. Thus, it is expected that such information be standardized and accurate and enable comparisons between similar foods, thus facilitating food choices (Brasil, 2003a). Nevertheless, this resolution allows reported serving sizes to vary from 30% less to 30% more than the recommended value.

In addition to serving size information, nutrition labels include household measurements corresponding to serving sizes and complementary nutritional information (Declaration of Nutritional Properties), which applies to claims of “light” foods when there is a reduction of at least 25% in the content of a particular ingredient (sugar, fat, protein, vitamins or minerals) per serving compared to a regular food (Brasil, 2012). At the same time, the law also covers “diet” foods—i.e. those with changes in the content of protein, carbohydrates, fat and other nutrients or energy values to meet the needs of people who have specific physiological and metabolic conditions—i.e. food for special purposes (Brasil, 1998).

The market growth of “diet” and “light” foods (foods with reduced calories, fat or sugar) in Brazil (INMETRO, 2004) may be the result of greater consumer concern about health - leading to the selection of low-calorie foods that are considered healthier, such as “diet” and “light” foods (Câmara et al., 2008; Marins et al., 2011). However, studies have found that “diet” and “light” dairy products do not always have nutritional characteristics superior to those of regular foods (foods not reduced in calories, fat or sugar) ([Walker et al., 2009](#); [Silva & Ferreira, 2010](#); [Menard et al., 2012](#)). In some cases, these foods have higher sodium levels ([Menard et al., 2012](#)) and/or more food additives ([Fowler et al., 2008](#)). In addition, many of them do not meet the law’s requirements to make such claims ([Silva & Ferreira, 2010](#) Câmara et al., 2008). This situation is cause for concern as the presence of health claims can lead to increased consumption of specific food types ([Chandon, 2013](#); [Belei et al., 2012](#)).

In this context, the present study aimed to analyze and compare the serving sizes and energy values reported on the nutritional labels of processed and ultra-processed dairy products sold in Brazil in their regular and *diet/light* versions.

Methods

This was a census-type cross-sectional study. Information was collected from the nutrition labels of all processed and ultra-processed dairy products available for sale in an intentionally chosen supermarket that belongs to one of the ten largest supermarket chains in Brazil (ABRAS, 2013). Informed consent was obtained from the establishment's managers.

Data collection instrument and techniques

The data collection instrument used was developed by Kliemann et al (2014) and was previously tested in a pilot study. Information was collected on product identification (type, commercial name, flavour and brand), net weight (in grams or millilitres) and nutritional information (serving size in grams or millilitres, household measurement, energy value and claims of being “diet” and “light”).

Variations of the same food product in packages of different sizes were recorded as new products. The data collection was done by nutritionists and trained nutrition students in August 2011.

Selection of food products

Of the foods products available for sale at the time of the data collection, we excluded those to which Brazilian nutrition labelling law does not apply (such as bakery products prepared and packaged by the supermarket itself) as nutritional labelling is not mandatory for such products (Brasil, 2003b). Also excluded were those foods that did not present nutrition information by serving (in grams or millilitres) and those that presented serving sizes only in household measurements. Also excluded were concentrated, powdered, dehydrated and/or mixed foods that need to be reconstituted by adding other ingredients due to the specificity of the rule defining the serving sizes for these products (Brasil, 2003a). For this study, all

processed and ultra-processed dairy products were selected in accordance with the established exclusion criteria.

Data treatment and analysis

Data were tabulated using Microsoft Excel[®] software with double entry by different typists and were validated at the end of the process in the EpiData[®] v. 3.1 statistical program (EpiData Association, Odense, Denmark) to check for possible data entry errors.

The processed and ultra-processed dairy products were classified in five food groups according to the reference serving sizes set by the law (Brasil, 2003a). These groups were: (1) dairy drinks, fermented milk and yogurt; (2) cottage, non-fat ricotta, minas, non-fat soft and *petit-suisse* cheeses; (3) ricotta, semi-hard, white, soft and cream cheeses; (4) grated cheese; and (5) dairy desserts. Serving sizes reported in grams or millilitres were categorized according to their degree of compliance with the law's reference serving size (Brasil, 2003a) (Table 1).

Table 1

Due to the asymmetry of the variables, median, minimum and maximum values were calculated to analyze the serving sizes, energy values and energy values per 100g (energy density) in each food group. Percentages of processed and ultra-processed dairy products were estimated according to the compliance of their serving sizes with Brazilian law and according to the food groups and the designations of “diet/light” or regular.

To check for associations between reported serving size compliance and the energy value and energy density per serving variables for the regular and “diet/light” foods, the Kruskal-Wallis test was applied with median and interquartile range analysis. The analyses

were performed with the Stata v.11.0 0 (StataCorp, College Station, Texas, USA) and SPSS v.16.0 statistical programs. A value of $p < 0.05$ was considered indicative of statistical significance.

Results

The data included information from 451 processed and ultra-processed dairy product labels. Of these products, most (82%) were classified in the “dairy drinks, fermented milk and yogurt” group (41%) and the “ricotta, semi-hard, white, soft and cream cheeses” group (41%). In regard to serving size, it was observed that all of the groups had median reported serving sizes that were in compliance with Brazilian law (Table 2). Nevertheless, it is worth noting that only two of the five groups had median serving sizes that were equal to the value recommended by law, while the others had median reported serving sizes that were within the range of 30% above or below the reference value, as permitted by law. Even so, high variability was found in the reported serving sizes in all groups, with the maximum values being at least two times larger than the minimum values. Of particular note was the “ricotta, semi-hard, white, soft and creams cheeses” group, which had the greatest range—the maximum value was six times larger than the minimum value. It is emphasized that there has been no standardization of serving sizes, as all of the groups had foods with serving sizes above and below the values recommended by Brazilian law.

In terms of energy value, it was observed that the groups that had the widest ranges in serving size also had greater variability in reported energy values. Of particular note is the “ricotta, semi-hard, white, soft and cream cheeses” group, as its maximum energy value was 21 times greater than its minimum value. When assessing energy value per 100g of food (energy density), it was observed that the “grated cheese” group had the highest median value while the “dairy drinks, fermented milk and yogurt” group had the lowest median value.

Table 2

In the analysis of the compliance of reported serving sizes to Brazilian law by group (Chart 1), 76% of the processed and ultra-processed dairy products met the law's requirements. Of particular note are the "ricotta, semi-hard, white, soft and cream cheeses" and "grated cheese" groups, as most of their products had serving sizes equal to the recommended value, without using the permitted range of 30% above or below this value. However, we point out that the majority of the products in the "dairy desserts" group used the lower end of the range allowed by law to report serving sizes. Smaller serving sizes and serving sizes that did not meet the law's requirements were observed in 45% of the products in the "cottage, non-fat ricotta, minas, non-fat soft and *petit-suisse* cheeses" group and in 37% of the products in the "dairy drinks, fermented milk and yogurt" group.

Chart 1

It was found that 127 (28%) processed and ultra-processed dairy products had "diet" or "light" claims on their labels. Of these foods, 69% reported serving sizes that complied with the law. It was also found that 53% of these foods reported smaller serving sizes and 46% reported serving sizes equal to the reference serving size without using the 30% margin. Of the regular foods, 78% reported serving sizes in compliance with the law and 63% reported serving sizes equal to the reference serving size, as shown in Chart 2.

Chart 2

Analysis of serving size compliance within the 30% margin permitted by Brazilian law by subgroup in the “diet/light” food group and the regular food group is shown in Chart 3. It can be seen that the serving sizes of the regular foods are in closer compliance with the law than those of the “diet/light” foods in three of the five groups: cottage, non-fat ricotta, minas, non-fat soft and *petit-suisse* cheeses; grated cheese; and dairy desserts. Among the “diet/light” foods, the “ricotta, semi-hard, white, soft and cream cheeses” group stands out for having serving sizes that meet the law’s requirements for all foods. Most of the regular foods had appropriate serving sizes in all groups.

Chart 3

Table 3 shows that 99.2% of the “diet/light” foods and 95% of the regular foods had serving sizes that fully complied with the law or used the 30% lower range. It was found that 46% of the “diet/light” foods and 63% of the regular foods had serving sizes identical to the legislated values. In the “diet/light” food group, it was observed that, even though lower caloric values were found in the foods with smaller reported serving sizes, the products that had serving sizes of 70-99% of the reference value presented less energy density per 100 grams. It was also observed that the energy values reported for the “diet/light” foods increased in relation to an increase in serving size—with a statistically insignificant difference ($p < 0.05$). However, energy density per 100 grams was greater for most foods with inappropriate serving sizes ($p < 0.05$), foods with serving sizes larger than recommended and foods with serving sizes smaller than recommended.

In the regular food group, it was found that the products with the smallest serving sizes (<70%) had lower reported energy values and less energy density compared to the products classified as 100% adequate and 70-99% adequate. The products with larger serving

sizes had reported energy values and energy density equal to or less than the products that were in 100% compliance. The number of products with serving sizes larger than the reference value prevents this comparison from being made with this group since only one food in the “diet/light” group met this condition. In addition, it is worth noting that the energy density of the foods with smaller or inadequate serving sizes according to the law is similar between the “diet/light” foods and the regular foods.

Table 3

Discussion

This was the first census-type study to analyze the serving size information of dairy products at a supermarket of one of the ten largest supermarket chains in Brazil. The data analyzed showed that processed and ultra-processed dairy products present inadequacies in regard to reporting information on serving sizes on labels - both by reporting smaller serving sizes and serving sizes that do not comply with Brazilian law and because of the high variability of serving sizes for similar products. In addition, “diet/light” foods tend to report serving sizes that are even smaller and more inadequate, even though they have similar energy density to regular foods and higher energy density per appropriate portion as prescribed by Brazilian law for “diet/light” foods.

It was observed that most processed and ultra-processed dairy products used the 30% range allowed by law to report their serving sizes. As a result, there is variability in the serving sizes reported on food labels, with maximum values being at least two times higher than minimum values. The same result was found in another study conducted in Brazil with dairy drinks, fermented milk and yogurt, which found 100-200g variability in the reported serving sizes of these products (Grandi & Rossi, 2010).

A study conducted by [Kliemann et al \(2014\)](#) showed that the serving sizes reported on similar processed foods are not standardized. This situation compromises the comparability of nutritional values between similar foods ([Kliemann et al., 2014](#); [Grandi & Rossi, 2010](#); [Vanderlee et al., 2012](#)), which is relevant given that making comparisons is one of the main reasons that people read nutrition labels in countries such as England, the Netherlands, Germany, Ireland ([Cowburn & Stockley, 2005](#), [Ranilovic & Baric, 2011](#)) and the United States ([Wills et al., 2009](#)).

Serving size information assists in determining the amount of foods to be bought and prepared as well as controlling food intake (EUFIC, 2011). Despite its importance, this information is one of the items least understood by consumers (WHO, 2004). This situation may occur due to the wide range of possible serving sizes that the food industry uses to label its products, thus influencing information on the amount of nutrients a food product contains ([Machado et al., 2013](#)) as well as the understanding of this information, thus infringing on a basic consumer right (Brasil, 1990).

It is noteworthy that, although Brazilian law allows 30% variability above and below its recommended serving sizes, many foods have serving sizes that do not comply with the law. Studies conducted in several countries have shown that this can lead consumers to overestimate or underestimate the amount of nutrients consumed ([Antonuk & Block, 2006](#); [Vanderlee et al., 2012](#)). In addition, the serving size reported on a label is not always taken by consumers to be a recommended intake amount ([Ueland et al., 2009](#)). It also bears noting that it may not represent the amount customarily consumed by most of the population, given that it is common to consume portions larger and the amount set in the nutritional information of processed food labels ([Ueland et al., 2009](#); [Vanderlee et al., 2012](#); [Kraemer et al., 2014](#)). Thus, the variability of serving size reporting and the presentation of smaller serving sizes

can hinder the understanding of serving size information on food labels ([Bryant & Dundes, 2005](#)).

One example found was that of two types of yogurt. The first yogurt had a smaller serving size that did not comply with the law, with 130 grams and 160 kcal per serving. The second yogurt had a serving size that complied with the law (200g and 224kcal per serving). In this example, if both yogurts had used the recommended serving size (200g), the first one would have a higher energy value per serving. In this way, the reporting of serving sizes smaller than reference values can be used to reduce the energy values reported on labels, leaving consumers with the false impression that a food is less caloric. This undermines the purpose of nutrition labelling, which is to provide accurate, standardized and understandable information about food contents (Brasil, 2003a; WHO, 2004).

The Brazilian population frequently reads the nutritional information on foods labels at the time of purchase (Idec, 2014), mainly to determine reported energy values for specific foods, such as “diet” and “light” products ([Monteiro et al., 2005](#)). Due to increasing consumer concern about health, many consumers are choosing to purchase “diet” or “light” foods instead of regular ones because they are often characterized as being healthy (Câmara et al., 2008; Marins et al., 2011). However, dairy products that have reduced or eliminated certain nutrients (such as in “diet” and “light” foods) often have higher sodium levels when compared to regular foods ([Silva & Ferreira, 2010](#); [Menard et al., 2012](#)).

According to Monteiro & Cannon (2012), merely reformulating products will not improve overall public health because ultra-processed foods are inherently unhealthy. Their components (whether modified or recombined) are still combinations of processed industrial ingredients such as fat, sugar, syrups, salt and additives. In addition, these reformulated products are promoted through discounts and advertising in the media and at supermarkets (Monteiro et al., 2012).

Furthermore, some authors have pointed out that many “diet” and “light” foods do not meet the law’s requirements to receive such designations ([Silva & Ferreira, 2010](#); [Câmara et al., 2008](#)). The present study’s findings show that the serving sizes of “diet” and “light” foods were smaller than those of regular foods. However, it should be noted that few foods in either group had serving sizes that were larger than the law’s reference value. The reporting of smaller serving sizes (especially among “diet” and “light” foods) was accompanied by a reduction in the energy values reported on labels – which also could be observed for other food components, such as fat content. As with “diet” and “light” foods, white cheeses are considered healthy because they have low fat content ([Silva & Ferreira, 2010](#)). However, most of the foods in the cottage, non-fat ricotta, minas, non-fat soft and *petit-suisse* cheeses groups have serving sizes smaller than the law’s recommendations.

It was observed that the energy density of the foods with serving sizes smaller than or not in compliance with the law’s recommendations was similar between the “diet/light” and regular foods. In addition, the “diet/light” foods with smaller and non-compliant serving sizes reported lower energy values but higher energy density when compared to the “diet/light” foods that followed the law’s recommendations. This relationship supports the hypothesis that smaller serving sizes on labels may be being used as a way to demonstrate nutritional characteristics of foods that are perceived as favourable by consumers ([Machado et al., 2013](#)) as well as non-existent differences in energy values ([Drewnoski et al., 2009](#); [Kliemann et al., 2014](#)). This situation may occur in order to highlight a product’s supposed superiority and create the perception that it can be consumed without restriction ([Wansink & Chandon, 2006](#); [Marins et al., 2011](#)).

In Brazil, [Silva & Ferreira \(2010\)](#) measured the energy values of minas cheeses and found higher energy density in low-fat minas cheeses than in regular ones. The study also observed ricotta cheese samples with higher fat levels than expected. It is suggested that these

products were manufactured with a major addition of milk—a process that generates profits from consumers but detracts from the product by giving it a higher fat content and thus a higher energy value. A similar result was found in a study of dairy products in Australia, in which the energy values of reduced-fat products were similar to those of corresponding regular products due to the replacement of fat with sugar ([Walker et al., 2009](#)). This situation can compromise the analysis and comparison of Brazilian processed foods at the time of purchase, especially in light of the fact that most consumers do not know the difference between the terms “diet” and “light” ([Oliveira & Franco, 2010](#)) and merely associate these terms with reduced caloric content ([Marins et al., 2011](#)), which can lead to increased consumption of these foods ([Chandon, 2013](#); [Belei et al., 2012](#)).

Therefore, according to the scientific literature, the use of technical language (such as “diet” and “light”) that is poorly understood by most ([Monteiro et al., 2005](#); [Oliveira & Franco, 2010](#)) and a lack of standardization in reporting serving sizes ([Kliemann et al., 2014](#), [Vanderlee et al., 2012](#)) hinder the understanding of nutritional information ([IDEC, 2013](#)). Furthermore, the need for performing calculations at the time of purchase in order to compare foods can affect food choices made based on the information reported on labels ([Bryant & Dundes, 2005](#)).

Finally, it is necessary to emphasize the importance of standardizing serving size information on food labels to provide consumers with clearer and more accurate information about energy value and nutrient content. To this end, we suggest reevaluating the permitted variation in reported serving sizes, which currently represents a range of 30% above or below the law’s reference serving size. The data reported here indicate that this range may be too wide and could potentially render the comparison of similar foods infeasible. The addition of a nutrition information column with nutrition information per 100 grams of food product could facilitate consumer analysis and comparison of energy values and other nutrients

between similar foods ([Kliemann et al., 2014](#)). Therefore, food labelling regulatory proposals should be discussed in order to provide consumers with better information and protection against confusing labelling strategies with the aim of improving health conditions in the Brazilian population (Brasil, 2013).

One of the limitations of this study was that the data was collected from food labels rather than by conducting physical-chemical analyses or by weighing the foods. However, we analyzed the same label information that is available to consumers, which is the only information they have at the time of purchase to guide their food choices. Therefore, consumer rights advocates aim to make nutrition labelling provide more information and accuracy in order to use it as a public health policy. This information's reliability must be ensured by manufacturers and be subject to review for compliance with current law. Another possible limitation of this study was the inclusion of food products from a single supermarket. However, since the supermarket surveyed belongs to a large chain, other stores of the same chain throughout the country sell most of the same products. Therefore, this does not affect the study's external validity.

Conclusions

This study has shown that processed and ultra-processed dairy products present inadequacies in terms of reporting serving size information on their labels - both by reporting servings that are smaller and not in compliance with Brazilian law, and because of the high variability of serving sizes for similar products. "Diet" and "light" foods may report smaller serving sizes in order to report lower energy values. The association between serving size variability and energy values in similar foods supports the hypothesis that smaller serving sizes are reported in order to demonstrate non-existent differences in energy values, given that energy density was similar between the "diet/light" foods and the regular foods. This

situation can hinder the understanding of serving sizes and compromise comparisons of similar foods.

This study emphasizes the importance of standardizing serving size information on food labels so that consumers have access to clear and accurate information about food products. To this end, the authors suggest reviewing the permitted variability for reporting serving sizes. The addition of a nutritional information column with nutritional information per 100 grams of food product could help consumers compare energy values and other nutrients between similar processed foods.

Finally, with the aim of improving health conditions in the Brazilian population and achieving the objectives of nutrition labelling, it is recommended that Brazilian food labelling law be more stringently enforced in regard to compliance with reference serving sizes.

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Table 1. Classification of serving sizes (g or ml) reported on labels in relation to reference serving sizes established by Brazilian food labelling law.

Classification¹	Meaning	Compliance with law²
<70%	Serving size smaller than 70% of recommended serving size (g or ml)	Inadequate
70-99%	Serving size up to 30% smaller than recommended serving size (g or ml)	Adequate
100%	Serving size equal to recommended serving size (g or ml)	Adequate
101-130%	Serving size up to 30% larger than recommended serving size (g or ml)	Adequate
>130%	Serving size larger than 130% of the recommended serving size (g or ml)	Inadequate

¹ Classification of serving size in g or ml reported on the label in relation to the legislated reference serving size

² Resolução da Diretoria Colegiada nº 359/2003

Table 2. Description of reference and reported serving sizes, reported energy values and energy values per 100g, according to processed and ultra-processed dairy product group.

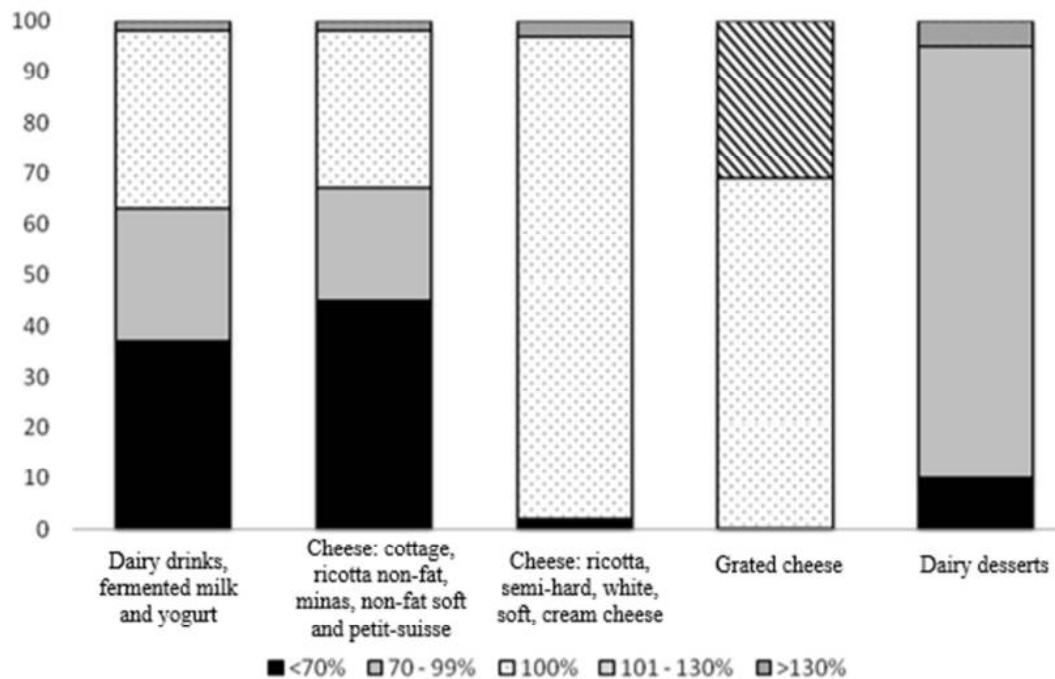
Group	Serving size (g)				Energy value (kcal)			
	N	Reference	Reported serv. size		Reported per serving		Reported per 100g	
			Median	Min; Max	Median	Min; Max	Median	Min; Max
Dairy drinks, fermented milk and yogurt	186	200	180	75; 300	112	38; 269	79	25; 140
Cheese: cottage, ricotta non-fat, minas, non-fat soft and petit- suisse	45	50	40	30; 60	64	28; 123	160	70; 380
Cheese: ricotta, semi-hard, white, soft, cream cheese	184	30	30	20; 120	99	19; 400	328	63; 600
Grated cheese	16	10	10	10; 30	46	37; 138	450	323; 470
Dairy desserts	20	120	105	40; 200	128	50; 341	125	42; 379

Table 3. Association of energy values, energy density and serving size according to Brazilian law for “diet/light” and regular processed and ultra-processed foods.

Serving size compliance	Diet/Light					Regular								
	n	Median	Energy values IQR ^a	p-value ^b	Energy density Median	Energy density IQR ^a	p-value ^b	n	Median	Energy values IQR ^a	p-value ^b	Energy density Median	Energy density IQR ^a	p-value ^b
<70%	38	59,0	47,3-92,0	0,007	98,3	53,0-136,5	0,002	56	88,0	68,0-105,5	<0,001	97,9	90,5-131,5	<0,001
70 – 99%	29	67,0	53,0-177,0		55,5	32,8-76,7		47	137,0	79,0-157,0		111,1	90,5-124,5	
100%	59	72,0	60,0-137,0		87,0	34,0-203,3		205	102,0	83,0-116,0		320,0	226,0-366,7	
101 – 130%	-	-	-		-	-		1	66,0	-		110,0	-	
>130%	1	103,0	-		343,3	-		15	102,0	87,0-174,0		174,0	70,0-333,3	
Total	127	67,0	54,0-132,0		76,7	41,9-140,0		324	101,0	80,5-120,0		246,3	99,1-343,3	

^a Interquartile Range; ^b Kuskal-Wallis test

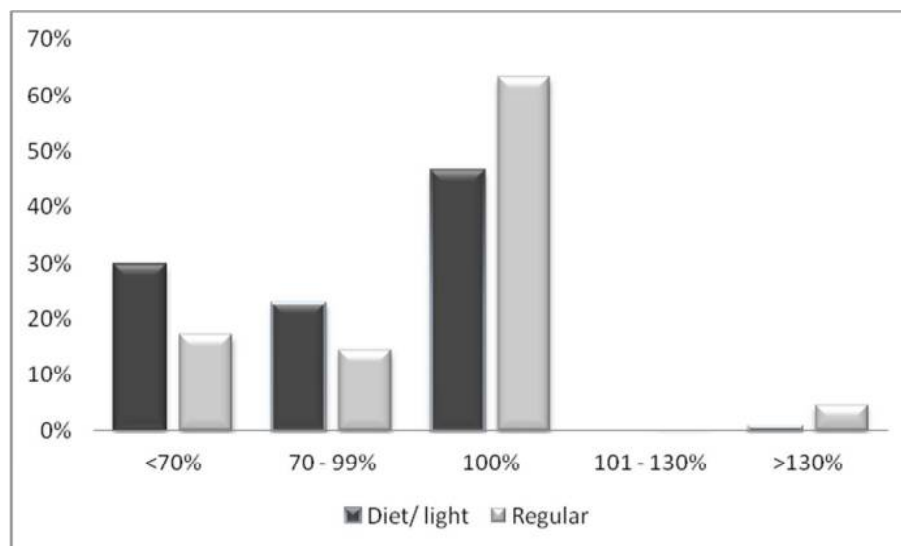
Chart 1. Percentage of foods per processed and ultra-processed dairy product group according to the compliance their serving sizes¹ with Brazilian law².



¹Classification of serving size in g or ml reported on the label in relation to the legislated reference serving size.

²Resolução da Diretoria Colegiada n° 359/2003.

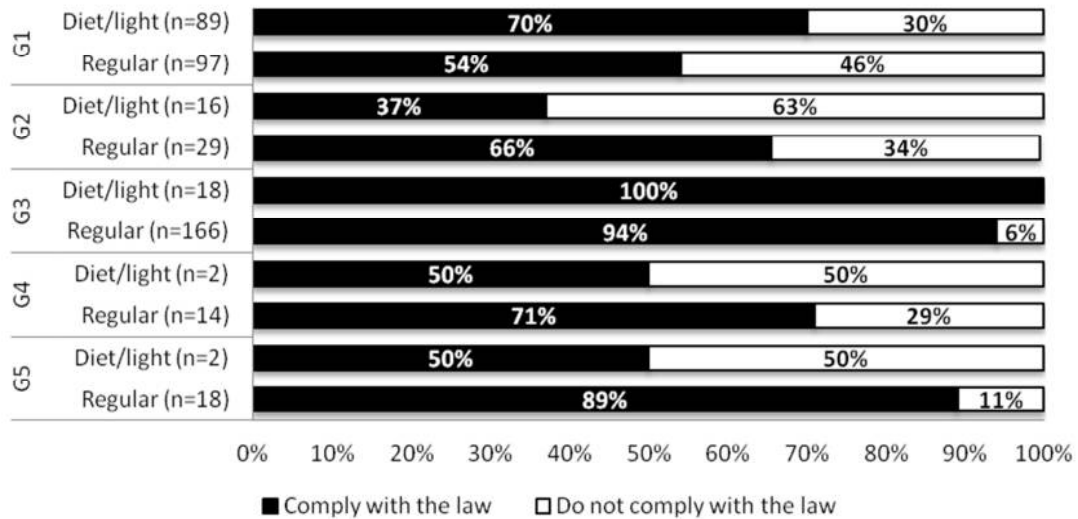
Chart 2. Percentage of “diet/light” and regular foods according to compliance of their reported serving sizes¹ with Brazilian law².



¹ Classification of serving size in g or ml reported on the label in relation to the legislated reference serving size.

² Resolução da Diretoria Colegiada nº 359/2003.

Chart 3. Percentage of compliance of serving sizes of “diet/light” and regular foods to Brazilian law by processed and ultra-processed food group.



G1 (group 1): dairy drinks, fermented milk and yogurt. G2 (group 2): cheese cottage, ricotta non-fat, minas, non-fat soft and petit-suisse. G3 (group 3): cheese ricotta, semi-hard, white, soft, cream cheese. G4 (group 4): grated cheese. G5 (group 5): dairy desserts.