114 - EVALUATION OF SWEETENERS DECLARED IN SODAS, TEAS AND JUICES SOLD IN NATAL / RN.

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INTRODUCTION

Sweeteners are sweet-tasting substances and may contain in their molecular composition, sugars or polyols which have calorific values lower than the sweetness of saccharose and equivalent or superior to saccharose (ORNELLAS, 2007).

According to a regulatory provision of the National Agency for Sanitary Vigilance (ANVISA) “sweeteners should only be used in beverages that are necessary to partial or total substitution of sugar", respectively, light and diet or zero sugar drinks (BRASIL, 2008).

However, the indiscriminate use of sweeteners can cause harmful effects to the health of individuals, from irrelevant gastrointestinal disorders such as flatulence, diarrhea osmotic, changes in the bacterial flora of the gut and intestinal cramps, to severe complications such as ocular lesions, metabolic acidosis, developmental variations IQ fetus, induction of cancer and neurological diseases (SAUNDERS, PADILHA, LIMA, OLIVEIRA and BESSA, 2010).

Given the increasing use of sweeteners in food production (SHIBAO, SANTOS, GONÇALVES and GOLLÜCKE, 2009), ANVISA published the Board Resolution collegiate (BRC) nº 18, March 14, 2008, which determines the maximum use of sweeteners to food and beverage, following international standards of the Codex Alimentarius, as well as references from the FDA (Food and Drug Administration) and ADI (Acceptable Daily Intake) of sweeteners which consists in estimating the amount of sweetener in a food or beverage expressed on the basis of body weight, which may be ingested daily during life without causing appreciable risk to the health of the consumer and usually expressed in mg/kg (JEFCA, 1991 apud SHIBAO, SANTOS, GONÇALVES and GOLLÜCKE et al., 2009).

Even with the standards established by ANVISA and ADI, one must consider that the excessive consumption of sweetened beverages, especially sodas and teas, can lead to extrapolation of the IDA determined sweetener, beyond the consumer not have science this situation, what is considered by the Brazilian Institute of Consumer Protection (IDEC) a great health risk to the population and disrespect to the code consumer (IDEC, 2006).

Thus, this study aimed to assess the main sweeteners stated on labels of sodas, teas and juices marketed in Natal/RN, comparing the amounts declared in relation to the limits established by ANVISA. Moreover, the study examined the amount to be ingested each beverage studied to achieve the ADI's sweeteners. Was further performed to verify the statement of commercial beverages under study.

MATERIAL AND METHODS

To make a collection with the widest possible range of different products marketed in Natal/RN, a survey of hypermarkets and large supermarket located in the Southern District of the city, in January 2011. So, was selected by simple random sampling, a representative of 90% (n = 6) of the establishments surveyed.

For selection of sodas, teas and juices to be evaluated were used as inclusion criteria, the presence of sweeteners in its formulation and framing in some of the categories of drinks range by legislation (BRAZIL, 2008), which include: drinks for diets restricting sugar, drinks for diets with controlled intake of sugars, drinks for weight management, nutritional supplement drinks with information showing partial replacement of sugars, complementary drinks with nutritional information showing total replacement of sugar. The study excluded sodas, teas and juices as sweeteners to submit additives technology.

For the convenience of the study, there was standardization of volumes of beverage packaging to be collected, according to most products found in the market place, so we selected teas and sodas in cans of 350 ml and juices in Tetrapak packaging of 1L.

We collected information about the type of beverage (soda, juice or tea), brand, commercial statement (Diet, Light, Zero sugar or other information), sweeteners added and the amount contained in 100 ml of the drink.

Data were tabulated in Excel 2007 software and the quantities declared sweeteners from the beverages were compared with the ceilings set forth in the BRC nº18/2008.

Calculation was performed to determine the maximal reach to the ADI using methods set out in Table 1, taking the "limiting sweetener" of each beverage evaluated, consisting of sweetening responsible for delimit the consumption of the drink to not exceed the ADI no this sweetener and therefore does not cause side effects. From this limiting sweetener, the quantities were determined maximum daily intake of the drink in liters, in which individuals of 30kg, 50kg or 70kg could consume without exceeding the ADI recommended.

Table 1 - Exemplification calculation of maximum daily consumption for each sweetener and determination of limiting sweetener in Coke Light for a person of 70Kg second Rossoni, Graebin and Moura, 2007.

Saccharin (ADI*:3,5mg/kg)	**Cyclamate** (ADI*: 11mg/kg)	**Aspartame** (ADI*: 40mg/kg)
1 kg ——— 3,5 mg 70 kg ——— x mg **x = 245 mg** 6 mg** ——— 0,1 L 245 mg ——— y L **y = 4,08 L**	1kg ——— 11mg 70kg ——— x mg **x = 770 mg** 32 mg** ——— 0,1 L 770 mg ——— y L **y = 2,44 L#**	1 kg ——— 40 mg 70 kg ——— x mg **x = 2800 mg** 12 mg** ——— 0,1 L 2800 mg ——— y L **y = 23,33 L**
# “limiting sweetener” is the cyclamate. Maximum daily consumption of 2.44L, in order to avoid risks of side effects. * ADI- Acceptable Daily Intake. **Quantity of sweeteners (mg) of coca-cola light in each 100ml drink.		

RESULTS AND DISCUSSION

The study was limited to analyzing information about sweeteners, concentration and statement commercial on the labels of soft drinks, teas and juices with added sweeteners marketed in Natal/RN, not being performed laboratory determination of sweeteners and their quantities declared. It is also worth mentioning that for the present research, the discussion of the data

found in relation to ADI is limited since there are few Brazilian studies on the quantities consumed beverage in question.

Data were collected from 39 different drinks, 8 sodas, 21 juices and 10 teas. The beverages analyzed in this study were within reach of the BRC nº. 18/2008, the data in this study demonstrate the efficiency and applicability of the legislation, to identify only the Guarana Antarctica Zero, representing 2.6% of the products in the study, was not as for exceeding by 6.7% the maximum sweetener saccharin determined under Brazilian law, which allowed the concentration of 15mg/100ml (BRASIL, 2008).

Among the information collected through the product labels, was identified by the presence of at least two drink non-caloric sweeteners that have been evaluated about the potential adverse health effects, including safety and carcinogenicity in long-term (GRANT, 2010), increased number of resorptions and decreased fetal weight of embryos, more specifically the sodium's cyclamate (ARRUDA, AZOUBE and MARTINS, 2003) and effects on fetal development and infant growth, resulting in the consumption of saccharin (ADA, 2004), distributed in beverages evaluated between acesulfame-K (26.0%), sucralose (25.0%), sodium's cyclamate (20.7%), saccharin sodium (19.6%), aspartame (8,7%), and acesulfame - K sweetener present in greater frequency in beverages under study.

It was identified maximum values of consumption of the drinks evaluated for achieving ADI, according to body weight in 0,47L to 5,0L for 30kg individual; 0,79L to 8,3L for 50 kg individual, and 1,1L for 11,7 L for 70 kg individual (Tables 1, 2 and 3).

Table 1 - List of soft drinks collected, commercial declaration, limiting sweetener and maximum daily consumption in liters, for individuals of 30, 50 or 70 kg.

Nº	Drink	Commercial statement	Limiting sweetener	Maximum Consumption in Liters		
				30 kg	50 kg	70 kg
01	Coca Cola Zero	Zero sugar	Sodium cyclamate	1,4	2,3	3,2
02	Fanta Orange Zero	Zero sugar	Sodium cyclamate	0,53	0,89	1,2
03	Fanta Grape Zero	Zero sugar	Sodium cyclamate	0,52	0,86	1,2
04	Guaraná Zero	Zero sugar	Sodium cyclamate	0,47	0,79	1,1
05	Kuat Eco	Low Calorie	Sodium cyclamate	1,2	2,0	2,9
06	Kuat Zero	Zero sugar	Sodium cyclamate	0,94	1,6	2,2
07	Pepsi Light	Light	Aspartame	3,4	5,7	8,0
08	Sprite Zero	Zero sugar	Sodium cyclamate	0,52	0,85	1,2

Table 2 - Relationship of teas collected, commercial declaration, limiting sweetener and maximum daily consumption in liters, for individuals of 30, 50 or 70 kg.

Nº	Drink	Commercial statement	Limiting sweetener	Maximum Consumption in Liters		
				30 kg	50 kg	70 kg
01	Tea Feel Good White Tea with Lychee Zero	Zero sugar	Sodium cyclamate	0,94	1,6	2,2
02	Tea Feel Good White tea Zero	Zero sugar	Sodium cyclamate	0,60	1,0	1,4
03	Tea Feel Good Tea green with Orange and ginger Zero	Zero sugar	Sodium cyclamate	0,51	0,85	1,2
04	Tea Feel Good Tea green with lemon Zero	Zero sugar	Sodium cyclamate	0,55	0,92	1,3
05	Tea Feel Good Tea red with mulberry Zero	Zero sugar	Sodium cyclamate	1,1	1,8	2,6
06	Tea Nestea Lemon Light	Light	Sodium cyclamate	0,66	1,1	1,5
07	Tea Nestea peach Light	Light	Sodium cyclamate	0,66	1,1	1,5
08	Leão Ice Tea green with pineapple and mint Zero	Zero sugar	Sodium cyclamate	2,9	4,9	6,9
09	Leão Ice Tea Lemon Zero	Zero sugar	Sodium cyclamate	0,73	1,2	1,7
10	Leão Ice Tea Peach Zero	Zero sugar	Sodium cyclamate	0,73	1,2	1,7

Table 3 - List of collected juices, commercial declaration, limiting sweetener and maximum daily consumption in liters, for individuals of 30, 50 or 70 kg.

Nº	Drink	Commercial Statement	Limiting sweetener	Maximum Consumption in Liters		
				30 kg	50 kg	70 kg
01	Guava Juice Del Valle Light	Light	Sucralose	4,5	7,5	10,5
02	Peach Juice Del Valle Light	Light	Sucralose	5,0	8,3	11,7
03	Cashew Juice Del Valle Light	Light	Sucralose	4,5	7,5	10,5
04	Grape Juice Del Valle Light	Light	Sucralose	4,7	7,9	11,1
05	Mango Juice Carrefour Light	Light	Acesulfame-k	2,1	3,6	5,0
06	Mango Juice Carrefour Light	Light	Sucralose	4,5	7,5	10,5
07	Peach Juice Carrefour Light	Light	Sucralose	3,0	5,0	7,0
08	Grape Juice Palmeiron Light	Light	Sucralose	4,5	7,5	10,5
09	Peach Juice Palmeiron Light	Light	Sucralose	4,5	7,5	10,5
10	Guava Juice Palmeiron Light	Light	Sucralose	4,5	7,5	10,5
11	Orange Juice Palmeiron Light	Light	Sucralose	4,5	7,5	10,5
12	Mango Juice DaFruta Light	Light	Sodium cyclamate	1,1	1,8	2,6
13	Peach Juice DaFruta Light	Light	Sodium cyclamate	1,1	1,8	2,6
14	Orange Juice DaFruta Light	Light	Sodium cyclamate	1,1	1,8	2,6
15	Guava Juice DaFruta Light	Light	Sodium cyclamate	1,1	1,8	2,6
16	Néctar Manguary Guava Light	Light	Acesulfame – k	2,8	4,7	6,6
17	Néctar Manguary Passion Light	Light	Sucralose	2,7	4,5	6,3
18	Néctar Manguary Mango Light	Light	Acesulfame – k	4,0	6,7	9,4
19	Néctar Manguary Cashew Light	Light	Acesulfame – k	2,8	4,7	6,6
20	Néctar Manguary Orange Light	Light	Acesulfame – k	2,7	4,5	6,3
21	Néctar Manguary Grape Light	Light	Acesulfame – k	3,8	6,3	8,8

The maximum consumption of beverages to achieve sweeteners ADI was quite variable in the case of sodas, can be seen in Table 1, the beverages Fanta Orange Zero, Fanta Grape Zero, Guarana Antarctica Zero, Sprite Zero showed maximal less than 1,5L/dia to achieve ADI sodium cyclamate, in the case of individuals with 70kg. Similarly, drinks Coke Zero, Kuat Zero, Kuat Eco have a maximum consumption exceeding 1,5L/day and less than 3,5L/day.

The study ROSSONI, GRAEBIN and MOURA (2007) also observed among soda, only one (Diet Sprite) that should not be consumed by a person weighing 70kg in excess of 0,7L in view of ADI recommended for consumption of sodium cyclamate. In our study an example of refrigerant that could bring more easily health risk, would Guarana Antarctica Zero, which should not be ingested by a 70 kg person in excess of 1,1L/day, aiming to ensure that no side effects, in view of ADI recommended intake of sodium cyclamate.

Regarding teas evaluated, it was observed that 50% (n = 5) showed a maximum intake of less than 1,5L/day to achieve the ADI sodium cyclamate for individuals weighing 70kg. It should also be more careful when these beverages are consumed by hypertensive patients since the presence of sodium cyclamate and sodium saccharin (Table 2).

In contrast, other beverages such as juices (Table 3) in which excessive consumption would be needed to achieve ADI the sweetener limiting. Beverages are evaluated in that would require a daily intake of 2,6L/day for individuals weighing 70kg at 11,7L/day, for example, peach juice Del Valle light, which can be consumed in large quantities without overcoming the intake acceptable daily sucralose.

It is commonly believed that it would be impossible for the consumer, the day-to-day, reaching the limits prescribed in the ADI determined sweetener (ROSSONI, GRAEBIN and MOURA, 2007). However, the Household Budget Survey (HBS) conducted by the Brazilian Institute of Geography and Statistics (IBGE) in the years 2008-2009, shows that the acquisition of soft drinks by the Brazilian family represents 1,8% of the food purchased for home consumption, the excess foods like potatoes, fish, eggs, vegetables, having a representation of 2,0% when the population is urban (IBGE, 2010). Besides that consumption might have increased further with the disclosure and use of marketing free refill which allows free and excessive consumption of these drinks.

It is noticed again be possible that certain amounts of being ingested by an adult, particularly when they are associated with daily intake of other food or beverages sweetened. How, for example, diabetic patients who according Castro and Franco (2002) show significant consumption of pundins and flans, chocolates, soft drinks, candies and chewing gum with sweeteners by population. Thus, due to the drinks caution recommending the basis of sweeteners, since other sweetened foods may be consumed throughout the day.

Care is required when a higher consumption of sweetened beverages is performed by children whose weight can be less than half of the adult. Thus, a 30 kg child should not eat more than 0,47L/day of Guarana Antarctica Zero for the ADI recommended intake of sodium cyclamate is not exceeded, ensuring the absence of side effects. Similarly, the drink tea green with orange and Ginger Feel Good Zero mark should not be ingested by more than 0,51L/day not to exceed the ADI sodium cyclamate for a 30 kg individual.

Not to exceed the daily limits is important that the consumer be informed of the maximum recommended intake without prejudice to their health - information that these should be included in the packaging of products.

Considering that these products do not provide this information, it is possible that consumers, especially children and pregnant, extrapolate the IDA determined sweetener without proper knowledge. If this is done, is considered by the Brazilian Institute for Consumer Defense (IDEC) a major health risk and a breach of the code of consumer protection (IDEC, 2006). Thus, Idec recommends that, in addition to the manufacturers inform the amount of sweetener found in sodas and other products, they could inform the ADI and the maximum consumption of such beverages.

From the determination of the maximum permitted daily for beverages evaluated, it was identified that showed sodium cyclamate as sweetening limiting 51,3% in study beverages, followed by the sucralose (28,2%), acesulfame-k (15,4%), sodium saccharin (2,6%), and aspartame (2,6%). Since sodium cyclamate responsible for determining the maximum daily intake of 87,5% of sodas, juices of 19,0% and 90,0% of teas under study, and limiting Guarana Antarctica Zero as a beverage with lower consumption in study with a maximum consumption of 0,47L, 0,79L and 1,1L, for individuals with 30 kg, 50 kg and 70 kg, respectively. This can be explained by the fact that even be less sweet sweeteners (30 to 50 times sweeter than sucralose) need be used in larger quantities (BRAZIL, 2002). Well as reduced ADI because the potential harms caused by the long-term sodium cyclamate.

As for the commercial declaration, there was the use of Light in 12,5% of sodas, 20,0% teas and 100% of juices; Zero Sugars in 75.0% of sodas and teas 80.0%; low Calorie only 12.5% of sodas, while the power to introduce legislation diet drinks, no product collected showed that designation. This fact may be a result of marketing nutritional beverages producing industries in study to gain traction in the niche market of healthier products since field research showed that young people, especially consumer of soda, started associating the words Diet Light and products for sick and obsessed with the body (RIBEIRO, 2007 apud FILHO, OLIVEIRA and WATANABE, 2009).

CONCLUSION

Finally, before consuming or recommend the use of beverages with added sweeteners, the labeling should be noted, carefully read his sayings, components, formula, calories and other information and, if in doubt, consult the Health Surveillance and literature scientific about it.

REFERENCES

ADA - AMERICAN DIABETES ASSOCIATION (ADA). Nutrition Recommendations and Interventions for Diabetes. Diabetes Care. V. 30 (Suppl 1), s61-78, 2008.

ADA - AMERICAN DIETETIC ASSOCIATION (ADA). Position of the American Dietetic Association: Use of nutritive and Nonnutritive sweeteners. J Am Diet Assoc. New York, v. 104, n. 2, p. 255-75, fev. 2004.

ARRUDA, J. G. F.; MARTINS, A. T.; AZOUBE, R. Ciclamato de sódio e rim fetal. Ver. Bras. Saúde Materno Infantil. Recife, v. 3, n. 2, p. 147-150, abr./jun. 2003.

BRASIL. Portaria SVS/MS nº 27, de 14 de janeiro de 1998. Regulamento Técnico referente à Informação Nutricional Complementar. Diário Oficial da República Federativa do Brasil, Brasília, 16 de janeiro de 1998.

BRASIL. Portaria SVS/MS nº29, de 13 de Janeiro de 1998. Regulamento Técnico para fixação de identidade e qualidade de alimentos para fins especiais. Diário Oficial da República Federativa do Brasil, Brasília, 30 de Março de 1998a.

BRASIL. Resolução de Diretoria Colegiada - RDC nº 18, de 24 de Março de 2008. Regulamento Técnico que autoriza o uso de aditivos edulcorantes em alimentos, com seus respectivos limites máximos. Diário Oficial da União. Brasília, 25 de Março de 2008.

CASTRO, A.G.P.; FRANCO, L.J.Caracterização do consumo de adoçantes alternativos e produtos dietéticos por indivíduos diabéticos. Arq Brás Endocrinologia Metab. São Paulo, v.46, nº 3, p.280-287, junho. 2002.

FILHO, D.O.L.; OLIVEIRA, L.D.S.; WATANABE, E.A.M. Tendências mercadológicas para o consumo de refrigerantes de baixa caloria. Perspectiva Contemporânea. Campo Mourão, v. 4, n. 2, p. 80-104, ago./dez. 2009.

GRANT, B. Terapia Nutricional para o Câncer. In: MAHAN, L.K; ESCOTT-STUMP, S. Krause: Alimentos, nutrição e dietoterapia. 12ªEdição. Ed. Elsevier: Rio de Janeiro, cap 37, p.959 – 984, 2010

IBGE – Instituto Brasileiro de Geografia e Estatística. Pesquisa de Orçamentos Familiares 2008 – 2009: Avaliação nutricional da disponibilidade domiciliar de alimentos no Brasil. 1ª Edição, IBGE: Rio de Janeiro. 2010.

IDEC – Instituto Brasileiro de Defesa do Consumidor. Pesquisa do Idec constata: adoçantes e bebidas light desrespeitam o Código de Defesa do Consumidor. [s.l.]: Idec noticías, 2006. Disponível em: HTTP://www.idec.org.br/emacao.asp?id=1153. Acesso em: 15 de Janeiro de 2011.

ORNELLAS, L.H. Técnica Dietética – Seleção e preparo de alimentos. 8ª Ed Atualizada e Revisada. Editora Atheneu: São Paulo, cap 17, p.234 – 235, 2007.

REIS, C. Efeitos do Adoçante dietetic (aspartame) e da sacarose no peso corporal e na ingestão calórica de ratos winstar. 2010. 70 p. Dissertação (Mestrado) - UFRGS. Porto Alegre, 2010.

ROSSONI, E.; GRAEBIN, L.B.; MOURA, R.P. Adoçantes presentes na formulação de refrigerantes, sucos e chás Diet e Light. R. Fac. Odontol. Porto Alegre, v.48, nº.1/3, p.5-11. Janeiro/Dezembro. 2007.

SAUNDERS, C.; PADILHA, P.C.; LIMA, H.T.; OLIVEIRA, L.M.; BESSA, T.C.D. Atualidades sobre a recomendação de edulcorantes no caso de diabetes na gestação. FEMINA,São Paulo, v. 38, nº4. Abril. 2010.

SHIBAO, J.; SANTOS, G.F.A.; GONÇALVES, N.F.; GOLLÜCKE, A.P.B. Edulcorantes em Alimentos: aspectos químicos, tecnológicos e toxicológicos. 1ª Ed. Editora Phorte: São Paulo. P. 15-97, 2009.

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EVALUATION OF SWEETENERS DECLARED IN SOFT LABELS, TEAS AND JUICES SOLD IN NATAL/RN.

ABSTRACT

The indiscriminate use of sweeteners and extrapolation of its Acceptable Daily Intake (ADI) can cause adverse health effects. This study aimed to verify the sweeteners declared on labels in beverages with added sweeteners sold in hypermarkets of Natal-RN, comparing the amounts declared with the Brazilian legislation. In addition, the maximum consumption of each beverage for people of 30 kg, 50 kg or 70 kg to reach the ADI was estimated. In January 2011, we collected the main soft drinks, teas and juices with added sweeteners in Natal, with 100% of the samples studied, which corresponded to 39 drinks (8 sodas, 10 teas and 21 juices). It was observed that only 2.6% (n=1) of the drinks were not in accordance with the Brazilian legislation in relation to established limits. There was a wide variation in the maximum amount of daily consumption to reach the ADI in the drinks surveyed. We identified a consumption of 0.47 L to 5.0 L for an individual of 30 kg to reach the ADI, 0.79 L to 8.3 L to a person with 50 kg and 1.1 L to 11.7 L for person weighing 70 kg. Sodium cyclamate was the most limiting sweetener (in 51.3% of drinks assessed), followed by sucralose (28.2%) and acesulfame-k (15.4%). We conclude that there is efficiency in the legislation application and that the consumption of sweetened beverages should be done with caution, noting its composition and labeling not to extrapolate the daily consumption.

KEYWORDS: Sweeteners. Health Legislation. Cyclamates.

ÉVALUATION DES ÉDULCORANTS DÉCLARÉES EN ETIQUETTES DES TOUCHES, THES ET JUS DE VENDUS AU NATAL-RN.

RÉSUMÉ

L'utilisation aveugle des édulcorants et en extrapolant leur dose journalière admissible (DJA) peut provoquer des effets néfastes sur la santé. Cette étude visait à vérifier les édulcorants principaux déclarés sur les étiquettes des boissons vendues dans les hypermarchés de Natal / RN, en comparant les quantités déclarées avec les plafonds fixés sous le n ° RDC 18/2008. Il a été constaté, à partir de la détermination de l'édulcorant en limitant la consommation électrique maximale de chaque boisson pour les personnes de 30 kg, 50 kg ou 70 kg. Nous avons également observé la boisson dénominations commerciales à l'étude. En Janvier 2011, l'enquête a été menée grandes boissons gazeuses, thés et jus avec des édulcorants ajoutée commercialisés dans le Natal, soit 100% des échantillons étudiés, ce qui correspond à 8 sodas, 10 et 21 de jus de thés. Il a été observé que seulement 2,6% (n = 1) boissons n'étaient pas conformes à la législation brésilienne en ce qui concerne les plafonds. Il y avait une grande variation de l'apport quotidien maximal de boissons recherchées en fonction du poids du corps, a été identifié consommation de 0,47 L à 5,0 L pour les particuliers 30 kg, 0,79 L à 8,3 L pour 50 personnes kg et 1,1 L à 11,7 L pour les personnes pesant 70 kg avec édulcorant cyclamate de sodium trouvé le plus limitant (51,3% évalués boissons), suivie par le sucralose (28,2%) et l'acésulfame-k (15,4%). Ainsi, il ya une loi dans l'efficacité de leur applicabilité et que la consommation de boissons sucrées doit être fait avec soin, en respectant la composition et l'étiquetage ne pas extrapoler la consommation quotidienne.

MOTS-CLÉS: Édulcorants. Législation Sur la Santé. ANVISA

EVALUACIÓN DE EDULCORANTES DECLARADOS EN LAS ETIQUETAS DE GASEOSAS, TÉS Y JUGOS QUE SE VENDEN EN NATAL-RN.

RESUMEN

El uso indiscriminado de los edulcorantes y su extrapolación de la Ingesta Diaria Admisible (IDA) puede causar efectos adversos a la salud. Este estudio tuvo como objetivo verificar los edulcorantes principal declarado en las etiquetas de las bebidas se venden en la red de supermercados de Natal / RN, la comparación de las cantidades declaradas con los límites establecidos en la legislación de la RDC N º 18/2008. No hubo, de la limitación de la determinación del edulcorante, el consumo máximo de energía de cada bebida a las personas de 30 kg, 50 kg o 70 kg. También observamos las marcas de bebidas en el estudio. En enero de 2011, la encuesta se llevó a cabo de las bebidas suaves grandes, té y jugos con edulcorantes añadidos comercializados en Natal, con un 100% de las muestras estudiadas, correspondientes a ocho bebidas gaseosas, jugos y té 10 21. Se observó que sólo el 2,6% (n = 1) las bebidas no estaban de acuerdo con la legislación brasileña en relación a los techos. Existe una amplia variación en la cantidad máxima de consumo diario de bebidas encuestados según el peso corporal, que se tradujo en un consumo de 0,47 L y 5,0 L para las personas de 30 kg, 0,79 L y 8,3 L a los 50 años de edad kg y 1,1 L hasta 11,7 L

para las personas de 70 kg, y el edulcorante ciclamato de sodio limita los más comunes (51,3% de las bebidas evaluadas), seguida de la sucralosa (28,2%) y acesulfame-K (15,4%). Por lo tanto, no es la eficiencia de la legislación en su aplicación y que debe ser el consumo de bebidas endulzadas hacerse con precaución, teniendo en cuenta su composición y el etiquetado no extrapolar el consumo diario.

PALABRAS CLAVE: Edulcorantes. ANVISA. Ciclamatos.

AVALIAÇÃO DE EDULCORANTES DECLARADOS EM RÓTULOS DE REFRIGERANTES, CHÁS E SUCOS COMERCIALIZADOS EM NATAL/RN.

RESUMO

O uso indiscriminado de edulcorantes e a extrapolação de sua Ingestão Diária Aceitável (IDA) podem ocasionar efeitos prejudiciais à saúde. Este estudo teve como objetivo verificar os principais edulcorantes declarados nos rótulos de bebidas comercializadas na rede supermercadista de Natal/RN, comparando as quantidades declaradas com os limites máximos estabelecidos na legislação RDC nº 18/2008. Verificou-se, a partir da determinação do edulcorante limitante, o consumo máximo de cada bebida para indivíduos de 30 kg, 50 kg ou 70 kg. Observaram-se ainda as designações comerciais das bebidas em estudo. Em janeiro de 2011, foi realizado levantamento dos principais refrigerantes, chás e sucos com adição de edulcorantes comercializados em Natal, sendo estudados 100% das amostras, que corresponderam a 8 refrigerantes, 10 chás e 21 sucos. Observou-se que somente 2,6% (n=1) das bebidas encontravam-se em não conformidade com a legislação brasileira em relação aos limites máximos estabelecidos. Verificou-se grande variação na quantidade máxima de consumo diário das bebidas pesquisadas de acordo com o peso corpóreo, sendo identificado um consumo de 0,47L a 5,0L para indivíduos de 30 kg; 0,79L a 8,3L para indivíduos de 50 kg e 1,1L a 11,7L para indivíduos de 70 kg, sendo o ciclamato de sódio o edulcorante limitante mais encontrado (em 51,3% das bebidas avaliadas), seguido de sucralose (28,2%) e acessulfame-k (15,4%). Dessa forma, verifica-se a eficiência da legislação na sua aplicabilidade e que o consumo de bebidas com adição de edulcorantes deve ser feito com cautela, observando sua composição e rotulagem para não extrapolar o consumo diário.

PALAVRAS CHAVES: Edulcorantes. Legislação Sanitária. ANVISA.