

Are diet food products really diet?

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Abstract

Diet products are consumed usually by people with health problem or people who want to loose weight. But, in Romania “the old known diet products” are not diet anymore. We tested some chicken hot-dogs from different Romanian producers and we was surprised to find the fat and salt content. On the other hand, hot-dog are accepted in consume for allergic people by physicians, and smoked food products are forbidden. But Romanian actual hot-dogs are smoked products, so has to be forbidden in allergic people consume. Fat and sodium content of Romanian hot-dogs exceed the limit establish for “diet products”. This fact imposes a new list with “diet food” based by test of Romanian products from the market and a good cooperation between the nutritionists and physicians.

Keywords: diet food products, hot-dog, salt, lipids.

1. Introduction

Diet foods or dietetic foods are food or drink products, usually consumed by people who are ill, who wants to loose weight, gain weight, and/or gain muscles. Also, diet foods defined products characterized by low calories, fat, salt and/or sugar; even free fat, sugar or salt; and “zero calories” products.

There are some countries with very good regulations for these alimentary terms, where the sodium, fat and sugar content for dietetic products are exactly specified. For example, in U.S. if a product label indicates the fat content as “low fat”, then the consumers know that the content of one serving does not exceed 3 grams of fat, and if is labeled as “fat free” the content of one serving is lower then 0.5 grams. Also, low-sodium content is synonym with 140 mg or less per serving and very low-sodium content mean 35 mg or less sodium per serving [1, 2].

For a long time ago, people knew that hot-dogs are diet products. But most of hot-dogs that are in Romanian markets have on

the label enough nutritional information for concerned consumers. Thus, we can find information about the total energy, fat, proteins and carbohydrates content, and even information about the technological process (if the product is boiled, smoked, pasteurized, etc.). These data would be enough for a people or a physician to can decide if the product is suit for their desire.

In Romania, in 2008, the Public Health Ministry drawn up a low: Low 123/2008 for a healthy diet in elementary schools and high schools after a good cooperation with nutritionists, about some food products that can be sold or distributed in school institutions. Concordant with this low, food products that exceed 1.5 grams of salt or 20 grams or fat per 100 grams product are not recommended for children. Different hot-dogs are preferred foods, especially for children, and because this we have to know the nutrient proportions, and also salt and total fat content [3].

But, sodium is essential for human organism, and it is found particularly in extracellular fluid. Sodium has essential role in nerve and muscle function. The Food and Nutrition Board from Canada recommends 500 mg of sodium daily as minimum intake for healthy adults, and no more than 2400mg sodium per day – the approximately amount of sodium from one teaspoon of salt [2, 4, 5, 7].

On the other hand, fat is also essential nutrient for human organism. Lipids (fat) have nutritive value and are used as energy sources for human organism (9.3 Kcal/g lipids). Also, lipids are structural components of biological membranes, are precursors of some vitamins or hormones, and also provide energy reserves. Dietary Guidelines for Americans set specific recommendation for lipids daily intake for a total fat intake less than 30% from daily kilocalories [4,5,7].

Our study followed to analyze the salt and total fat content of different chicken hot-dogs from Romanian market and producers.

2. Materials and Method

We analyzed the total fat content and salt content with physicochemical methods. Chicken hot-dogs were bought from Real Hypermarket from Timisoara. The samples were represented by hot-dogs – made from poultry (chicken) – from three different Romanian producers such as: “Unicarm”, “Aldis”, and “Agil”.

In the same day we prepared the laboratory samples, taking the exterior membrane and mechanically homogenous (by blender) hot-dogs content. After that, we analyzed the fat and salt content from chicken hot-dogs followed the specified methods. The chicken hot-dogs were exactly as we bought them, uncooked.

Total fat was analyzed with Soxhlet method, after the samples were dried in drying stove at 105°C for 6 hours. We used a filter paper for holding the sample and drying. The extraction was made with petroleum ether in a Soxhlet apparatus. For

analyze we used samples of 5 grams each, weight on an analytical balance with a precision of 0.0001 grams. The total content of fat was calculated and expressed as grams of fat per 100 g product (%).

Salt content was analyzed by Mohr method titration, using a sample of 10 grams, and weight with 0.0001 grams precision. The salt content of samples was expressed as grams of salt per 100 grams product.

Reagents and glasses used for these analyses were prepared in the concordance with the method prescriptions.

3. Results and Discussion

We took three different samples of chicken hot-dogs for each analysis and as results will be present as mean value.

Figure 1 presents the quantum of salt (sodium chloride) from analyzed chicken hot-dogs produced in Romania, for three different parts or Romania: “Unicarm” from Satu Mare, “Aldis” from Calarasi, “Agil” from Timisoara. The analysis showed that salt content is higher for chicken hot-dogs produced by “Aldis” – 2.54g/100g, and the lowest concentration was found for “Unicarm” hot-dogs – 1.91g/100g.

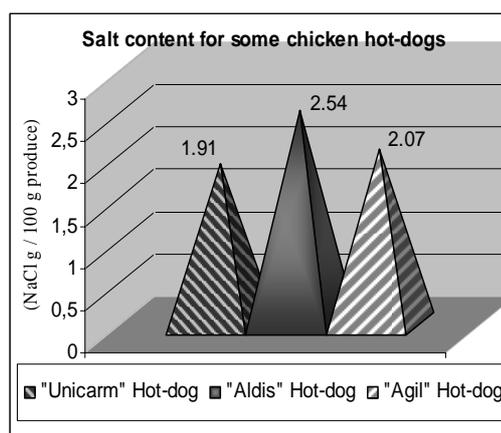


Figure 1. Concentration of NaCl from analyzed hot-dogs – produced in Romania

Recommendation for sodium intake varies between 920 – 2300 mg per one day for adults. Usually more than 75% of sodium

comes from processed foods, less than 10% comes from fresh vegetables and fruits, and also from meat; and about 15% of sodium comes from cooking meals and drinks [7, 8].

One serving hot-dogs is usually considered two hot-dogs, that represent about 120 grams. So, only one serving chicken hot-dogs means half of maximum recommended salt intake for a day – that can not be classified as diet products. These data show us that chicken hot-dogs are not recommended products for people with diabetes, hypertension, renal and hepatic disease, and also for allergic people – because of total content of salt and of course of sodium [6].

Figure 2 presents the total content of fat from three different hot-dogs' producers.

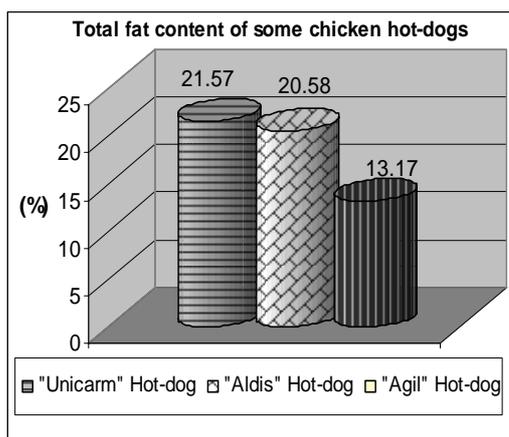


Figure 2. Concentration of total fat from analyzed hot-dogs – produced in Romania

Concentration of lipids in analyzed hot-dogs is higher for "Unicarm" chicken hot-dogs, followed by "Aldis" chicken hot-dogs, and is lower for "Agil" chicken hot-dogs. Even so, the total content of fat from these food products is high. On the other hand, one serving chicken hot-dogs (120g) brings between 15.8 and 25.9 grams of fat, that mean 147-240 Kcal.

These data shows that known diet products are not really diet anymore. Because of these, maybe good media information for most of the people will give them an idea for what food product to choose and

consume. Correlated with some diseases, the diet has to help people for their treatment or their cure.

Also, the food analysts, nutritionists, physicians and food technology engineers – has to collaborate together and find the way of design food, food products production, food technology, food labeled, food consumption guiding, nutritional and dietary recommendations to help people to be healthy and to help patients to cure their diseases.

4. Conclusion

It is very hard to say if a food product can be considered dietary food or not, based by its labeled composition. Fat and salt are two nutrients that are essential, but can become very easy unhealthy for human organism.

Salt content of different uncooked chicken hot-dogs ("Unicarm", "Aldis" and "Agil") varies between 1.91 and 2.54 grams per 100 grams of product, that is high enough concentration – especially for children and people with water retention (edema).

Total fat content of the analyzed samples of uncooked chicken hot-dogs is also high, especially from "Unicarm" and "Aldis" producers. The concentration of fat varies between 13.17 to 21.57 grams of fat for 100 grams of product. Thinking of the maximum recommended fat and energy intake for a day, one serving hot-dogs (120g) brings between 15.8 – 25.9 fat, meaning 147 – 240Kcal. This energy value represents about 10% from total daily energy for an adult – enough or too much fat and energy for one meal.

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