Levels of Salt in Romanian Food in 2009

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Abstract. Salt is the oldest preservative used for food. But the excessive consume of salt is at the origin of blood hypertension, a problem responsible for a huge number of human diseases and deaths. As a consequence, the level of salt added in processed food has to diminish progressively. At the end of 2009, the Public Health Authorities from 29 Romanian counties reported results from the salt analysis of 1321 samples of different foods. The highest levels of salt were found in “telemea” cheese and the significant salt content in other widely consumed food underlined the necessity for a joined effort in order to bring down salt and to comply with the World Health Organization target regarding the salt intake (5g/day), with a special accent put on the reformulation of processed food.

Keywords: salt, hypertension, reformulation.

INTRODUCTION

Salt is the oldest preservative used for foodstuff since the dusk of humanity. But in more recent times, as other preservation methods became available, the use of salt has grown less important. Most of all, the existence of refrigeration and freezing utilities took the place of salt, offering better conditions for keeping food fresh and healthy for longer periods. Unfortunately, during time, humans got used with the salty taste and even if salt itself is not anymore a must in the production of food, the consumer asks for it in order to be satisfied with the organoleptic characteristics of aliments. Even more, for food manufacturers it is economically advantageous to add larger quantities of salt, thus amplifying the weight of the product, enhancing the taste and obtaining a preservation buffer for times when food is eventually not kept in due conditions of temperature.

But the big problem that brings in front pages the use of salt in food has to do with its effects on human health. Salt is formed from sodium and chloride, two essential minerals for our metabolism. Humans get enough of them from genuine food without having to add salt. In fact, the “overdose” of salt is accused to be the starter of many cases of hypertension and, hence, for a huge number of cardio vascular diseases.

Studies carried on animals, including apes, have shown ups and downs of the arterial tension in direct relation with the salt intake, thus being strong arguments for the causal relation between salt and hypertension.

Epidemiological studies on humans suggested the same link. The largest observational study was the INTERSALT study (Stamler, 1997) and two other reference studies were TONE (Higdon, 2004; Wheklton et al., 1998) and TOHP-Phase I and II, lasting for two years.
and showing that taking away from food not more than 1 g of sodium per day means a far better control for already diagnosed cases of hypertension (THPCRG, 1997)

Reducing salt intake is the corner key in the hypertension management, an important lesson-to-be-learned, in connection with figures published by the World Health Organization, estimating that hypertension is the cause of 51% of strokes (WHO, 2010) and of 45% of ischemic heart disease (Mackay et al., 2004; Strazzullo et al., 2009).

Salt (sodium chloride) is 40% sodium by weight and is the main source of sodium in food. Salt intake has increased by 69% in women and 48% in men since the 1970s (Fryhofer, 2010).

Indeed, the intake of salt in most of the developed countries is high, far over the optimal intake of 5 g/day, and measures have to be taken at each level of food manufacturing chain in order to bring it down.

Up to now, in Romania we have no studies to evaluate the salt intake, but every year the National Institute of Public Health centralizes data gathered by the territorial Public Health Authorities and estimates the salt content in widely available Romanian food, in the frame of The National Health Program II.

The target is to create a data bank covering a large area of products and to encourage food manufacturers to reformulate products were this thing is possible and it is not interfering with the technological necessities.

MATERIALS AND METHODS

At the end of 2009, the Public Health Authorities from 29 counties reported results from the analysis of 1321 samples from which:

- diary products 280 samples,
- meat products 228 samples,
- bread 573 samples,
- catering dishes 240 samples.

All the figures were centralized, averages and limits were calculated.

RESULTS AND DISCUSSION

One of the most important groups of foods for all ages is the group of dairy products. It includes milk, sour milk, yoghurt and the related and all kind of cheeses. Widely consumed in Romania is the “telemea” cheese, a form of cheese that requires maturation in salted whey. The general tendency is to overload whey (and obviously cheese) with salt, both for preservation reasons and for economical ones.

In the present study salt was evaluated in retail and packed “telemea” cheese. Maximal and minimal percents are figured in Fig. 1. Obviously, packed cheese, generally more expansive than retail cheese, has a much lower level of salt.
From the meat group, low price cold cuts like “parizer” salami are preferred by a huge number of consumers, because they are affordable and tasty. This is why salt was evaluated in samples of this product, the values being figured in figure number 2.

Romanians are eating bread at each meal, and the per capita consume of this kind of starchy product is over the average of the European Community. Except for the specially “unsalted bread” (which is sold under this specific name), salt is added in bread in different quantities. The maximal and minimal values are figured in Fig. 3.
Recently, numerous catering companies developed in Romania. They are providing food for special events (weddings, parties) but also for companies, kindergartens, schools, hospitals. Due to the many advantages of ordering cooked meals instead of eating rather unhealthy fast food products while at work or at school, the territorial coverage of catering companies is widening. And so is the importance of providing equilibrated meals, with a low salt content. Unfortunately, reports from other countries show that exactly here can be found the highest level for salt, because of its taste enhancing powers. As a matter of fact, in Romania, as in many other European and American countries, it has been reported that foods like cheese and pizza, instead of having lower levels of salt now than before, have increased their salt in recent years.

In the samples tested, the maximal and minimal percents are those figured in Fig. 4. The tested dishes are mostly based or containing meat, like pizza, schnitzel or meat balls.
The average values for all tested samples is shown in Fig. 5.

![Graph showing average salt content in Romanian food](image)

**Fig.5. Average value of salt in Romanian food**

If compared with normative or with the technical specifications of the products, some of the samples have more salt than expected, thus contributing to the excessive intake. The percent with over-the-limit salt content is, for each group, the following: cheese 27.9% of the samples, “parizer” salami 2.63%, bread, 4.2% and catering products, 7.5%

**CONCLUSIONS**

Even though the average level of salt in the Romanian products tested in 2009 is not huge, the percent of very salted cheese samples is high and the summing of salt originating in different foods can lead to an excessive intake. Taking in account that the total number of samples was low and the coverage of the Romanian territory was not complete (Bucharest being the most important absent), we can conclude that salt content of Romanian products has to undergo a process of lowering. As in other countries, in Romania generally only 6% of salt is added at the table. An additional 5% is added in cooking. So the excessively salty problem is not under the direct control of the consumer.

More than 75% of sodium comes from processed and restaurant foods (Havas et al, 2007; AMA, 2010; Dickinson and Havas, 2007) Decreasing sodium needs the collaboration with the industry. This means that processed, including packaged, foods need sodium limits, and restaurants also have to lower salt added in their recipes by a thorough process of reformulation. Though sometimes food with a low level of salt is described by customers as tasteless, specialists have demonstrated that reducing salt with 18-20% is not a noticeable fact and even higher percents can be achieved, by adding taste with spices and herbs.

Comparing the benefits for health and for the expenses of the medical system (He and McGregor, 2009), with the eventual costs for the food manufacturers implied by the salt reducing procedures, it is obvious that simple measures have to be taken quickly in order to lower salt in processed food, as part of the general effort of reducing salt intake.
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REFERENCES