

THE PROBLEM OF EXCESSIVE SALT CONSUMPTION IN THE REPUBLIC OF MOLDOVA

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Abstract. *Salt consumption has been researched in the Republic of Moldova as well as in the world. The article presents data on the amount of salt consumed daily globally and in the Republic of Moldova, as well as the need to reduce salt consumption. The amount of the types of diseases caused by excessive salt consumption, the vital risks that this excess can cause, and the possibility of creating a bakery product to promote healthy eating were analyzed. Following some studies, it has been shown that table salt has an essential role in the baking technology, thus recipes of Grissini with sunflower seeds were developed in which the amount of salt was reduced by 0.5 g for each sample, as well as no salt while water was replaced with kefir, whey and sour borscht, to bring taste in the achloride product and improve the quality of the obtained product. The research results showed that the sample with kefir and sour borscht had similar results to the other samples in which 0.5 g of table salt was added. It can be stated that the liquid phase used in the preparatio of Grissini sticks can replace salt in bakery products, having an insignificant influence on the qualities of the finished product.*

Keywords: *salt, disease, consumption, role, hypertension, WHO, Grissini*

Introduction

Since the 1990s, the Republic of Moldova has gone through an epidemiological transition and as a result, diseases related to lifestyle and health-related behaviors-including cardiovascular disease (CVD), cancer, diabetes, chronic hepatitis and cirrhosis- are in continuous increase, becoming the main causes of mortality. Non-communicable diseases are considered the main cause of death in our country, being annually responsible for more than 85% of all deaths. Diseases of the circulatory system are the main cause of morbidity and deaths of the population, being responsible for every second death in 2016 [1].

The main risk factors of the cardiovascular diseases throughout the world and in the Republic of Moldova are unhealthy diet and high blood pressure. An extremely important determining factor for high blood pressure is increased salt consumption. Reducing salt consumption can directly improve population's health and indirectly reduce mortality through positive effects on blood pressure. The prevalence of high blood pressure among adults aged 18 and over in the Republic of Moldova in 2013 was 40%, with no gender differences. It is common for Moldovans to add salt to food both during cooking and at the table, but also to consume processed products with high salt content [2].

The purpose of the work

The purpose of this work is to analyze the causes and methods of solving excessive salt consumption in the Republic of Moldova. The European Action Plan in the field of Food and Nutrition recommends that countries adopt comprehensive strategies to reduce salt consumption. Within the European Region of the World Health Organization as well as in the Republic of Moldova, strategies to reduce sodium intake include monitoring and evaluation actions as basic pillars [3].

It is recommended that a comprehensive program to reduce salt intake among the population be implemented at the national level through systematic efforts, including raising public awareness and changing behaviors through communication (ex. Through health workers and education in schools). Structured programs must also be created;

- reformulation of industrially processed foods;
- establishing a framework for the food industry with the aim of reducing the salt content;
- the introduction of labeling in order to highlight the salt content in food products;
- monitoring and evaluation of salt consumption.

The role of salt in food industry

Salt is currently the most common ingredient used for flavoring food and is the only substance that gives a pure, salty taste [4]. Salt acts as a preservative for food products. It inhibits or slows down the development of pathogenic microorganisms and increases the shelf life of products. In the bakery industry it contributes to the texture of the dough by retaining water in the dough. In the meat industry it also helps retain water in the product and improves the color and flavor of the final product. Salt serves as a flavoring agent and can be used to balance flavors: sweet, sour, bitter, spicy. The World Health Organization recommends that the amount of salt consumed daily should not exceed 5 grams for adults, and even less for kids.

The negative effects of excessive salt consumption

The main disease caused by excess salt consumption is high blood pressure. Hypertension affects 1 billion people worldwide and is considered the leading cause of death. Sodium intake is reported to be a modifiable determinant of hypertension and reductions in sodium intake have been recommender worldwide. Various strategies have been proposed to combat this condition, especially in low and middle income countries [5]. Another disease is stomach cancer. Dietary factors, including a number of food groups including salt, can affect the risk of stomach cancer by directly damaging gastric mucus, eventually leading to loss of parietal cells and progression to gastric cancer [6]. Negative effects on the mental state of the body and increased depression are also other associated with high salt intake, only for women the excessive salt consumption and depression are inversely correlated [7].

Analysis of statistical data on the main causes of death in the Republic of Moldova

The main causes of death from excessive salt consumption and statistical data on the number of deaths for recent years shows that the death rate is actively increasing.

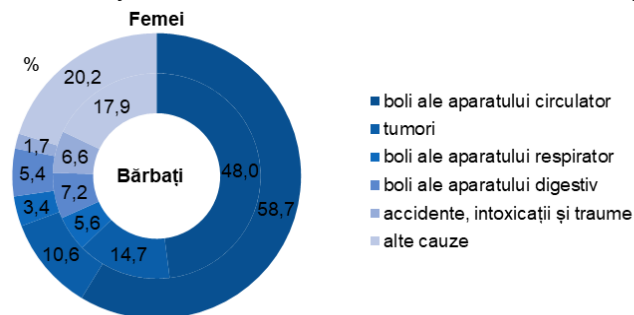


Figure 1. Share of deaths by main causes of death, by sex, in 2021 in the Republic of Moldova

Based on figure 1, it shows that the main cause of death are the diseases of the circulatory system and diseases of the digestive system. In case of the circulatory system disease the rate for women is 58,7% and for men is 48,0%. For the digestive system affections, the rate for women is 7,2 % and for men is 5,4. Can be observed that even if women consume less salt than men, they have higher risk to be affected by these diseases than representatives of the opposite sex.

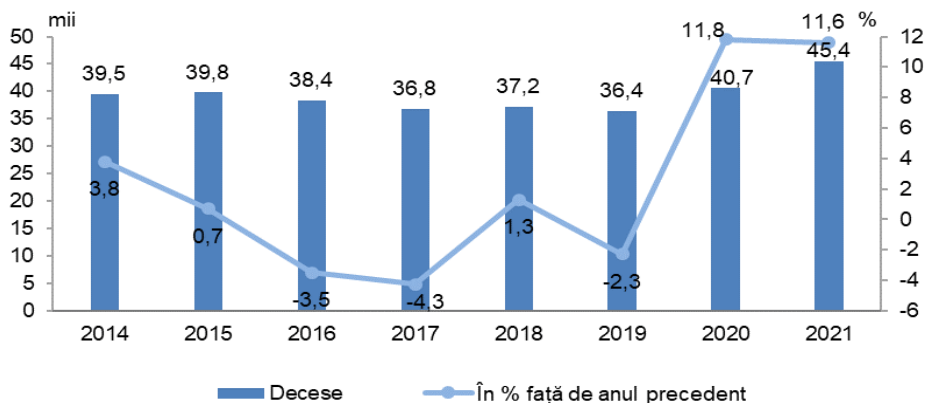


Figure 2. The evolution of the number of deaths in the Republic of Moldova in the years 2014-2021

As the Figure 2 shows, after the year 2019, the number of deaths is rising constantly. This is a sign which should guide us to take better care of health.

Analysis of salt consumption in the Republic of Moldova

- According to the WHO, bakery products are considered the main sources of salt in the diet. The consumption of pastry products ensures the intake of Na in a quantity of 75-85%.
- According to a study carried out by the Ministry of Health and the Ministry of Labor and Social Protection in partnership with the WHO office in the Republic of Moldova and Swiss Agency for Development and Cooperation (SDC), a study was launched which found that an adult between the ages of 18-69 years old from the Republic of Moldova consume 10-11,3 grams of salt daily.
- The amount consumed differs depending on gender, women consume less than men, and depending on the living environment, the population in the urban area consume more salt compared to those in the rural area.
- The amount of salt used per 100 grams of bread in the Republic of Moldova is 1-1,2 g, bread being one of the most consumed foods.
- The main source of NaCl is bread. In the Republic of Moldova, a person consumes an average of 333 grams of bread in a day, which is equivalent to 5,5 grams of salt, an amount that already exceeds the recommended daily dose.

The causes of high NaCl consumption and strategies for ensuring an adequate intake of salt

The main causes of excessive salt consumption are the following:

1. Advertising and marketing: advertisements and marketing are not the best solutions in choosing products.
2. Lack of awareness of the population: many people don't read product labels. Due to ignoring these actions, people end up consuming amounts of salt that exceed the recommended daily dose without realizing this fact.
3. Consumption of restaurant products or fast-food products: all products served are prepared with an increased amount of salt to satisfy and attract new customers.
4. Consumption of processed foods: processed foods are known to contain extremely high amount of NaCl. Products such as sausages, snacks and others are consumed for their pleasant taste, but the consequences can be very serious in case of regular abuse of these foods.
5. Using large amounts while cooking: an important tip is to add salt in the last stages of cooking or serving. It is not recommended to have salt on the table while eating, to avoid the abuse of salt in the diet.
6. Another strategy is to use bakery products with less salt or no salt at all. Thus, within the Food and Nutrition Department, bakery products with reduced salt content were prepared, which

require the development of normative documentation for placing on the market. The current objective is to develop the company standard for such a product.

An appropriate salt intake can be ensured by following the next steps:

- Monitoring the amount of salt consumed and following the recommendations of the World Health Organization to consume no more than 5 grams of salt per day;
- Reducing the salt content in the diet or to use salt where Na is partially replaced with K, Mg or Ca, cations known to lower blood pressure [8];
- Blood pressure monitoring. Salt has the role of maintaining the fluid in the tissues. If the symptoms as swelling around ankles or excessive thirst are present, it means that an excessive amount of salt has been consumed.

Conclusions

Excessive salt consumption is a current global problem. It has multiple negative effects on the health of the human body. The problem of salt abuse in food requires constant attention and urgent remedial methods. It is our responsibility, as specialists in the field, to contribute to the solution of this problem, to creation of products with a reduced salt content and their placement on the market.

Acknowledgements. Thanks to the scientific coordinator, Olga DESEATNICOVA, who guided me throughout this research!

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