RISK MANAGEMENT OF EXPOSURE TO SALT - THE NUTRITION LABELING POLICY FRAMEWORK

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Abstract: *Increased salt intake is the cause of countless long-term complications that have a major physical, mental, social and economic impact. This generates the appearance and development of a series of non-communicable diseases such as kidney disease, stomach cancer, osteoporosis, high blood pressure, strokes, heart failure, etc. Many governments around the world have developed legal framework to encourage a standard and informative system for labelling food nutrients, including salt on packaged products. While this trend is global, there remain differences between approaches to nutrition labelling policy framework. However, this intervention is important for risk management of exposure to salt intake in population.*

Keywords: *salt, sodium, nutrition labelling, policy framework, FOP*

Introduction

The global burden of disease (GBD) study defines a diet being high in sodium when it results in an average 24-hour urinary sodium excretion that is greater than 3 grams per day. The GBD study estimated that in the EU, in 2017 a diet high in sodium was accountable for more than 182,000 deaths and 2,950,000 disability adjusted life years (DALYs) both mainly associated with cardiovascular diseases, stomach cancer and chronic kidney disease [1].

Approximately 95% of sodium is consumed in the form of salt. According to the "EU salt reduction framework", the current daily salt consumption in most European countries is estimated or measured to range between 8 to 12 grams per day, with few member states above and few below this intake level. The regions with the highest reported salt intake levels are east and south Europe. Germany (6,3 g), Cyprus (6,5 g), Bulgaria (7,1 g) and Latvia (7,3 g) has the lowest estimates of salt intakes. The Czech Republic has the highest estimate of salt intakes at 13,6 grams per day, followed by Slovenia (12,7 g), Hungary (12,5 g) and Portugal (12,3 g). Salt intakes are generally higher in men than in women. for adult men, the salt intake range is from 6,5 g to 16,6 g per day. For adult women, the salt intake range is from 5,4 g to 12,3 g per day [2, 5].

International evidence suggests that current levels of sodium consumption contribute to increased blood pressure, higher risk of cardiovascular and kidney diseases, etc. It has been estimated that a reduction in dietary intake of sodium of 50 mmol/day would reduce the number of people needing antihypertensive therapy by 50%, the number of deaths from strokes by 22% and the number of deaths from coronary heart disease by 16% [3, 4].

Many governments have developed legal framework to implement a standard and informative system for labelling food nutrients. While this trend is global, there still remain differences between approaches to this field and this can create technical barriers to the free movement of packaged foods across borders.

1.   Materials and methods

The aim of the paper is to review current food labelling models in packaged food in order to reduce salt intakes in population. In these contexts, a narrative and systematic review was carried out to describe the food labelling. For each country we explored the model of food labelling and its components on food products including salt. Searches were conducted in electronic databases (Cochrane, PubMed and Web of Science) and reference lists of relevant articles that were published between 2000 and 2020. Articles were screened for quality in terms of clarity of the descriptions of measures, methods and findings.

2.   Research results

Globally, in response to the rising rates of salt related non-communicable diseases, policies have emerged that focus on improving the nutrition of populations using strategies such as food labelling. Specific regulatory and monitoring food labelling frameworks have been implemented in different countries.

In UK, from 2003 to 2011, salt content in many food categories had been reduced by 20%-50% and salt intake in the population had fallen from 9,5 to 8,1 g/d, accompanied by a decrease in population blood pressure and cardiovascular mortality, as well as annual cost-savings of ≈£1,5 billion for the health service. In these contexts, a front of pack signpost labelling system has been developed. It uses a combination of the 'traffic light' system, where there is a colour-coding of green, amber and red for low, medium, and high amounts of salt, fats, saturated fats and sugars present in the food products. The label also contains the Guideline Daily Amount system where the amount of salt per portion is expressed as a percentage of the daily recommended maximum. This type of standardized label is preferred by consumers, as they can see at a glance whether a product has a little or a lot of salt [3 - 5].

Finland started a successful salt reduction campaign in 1970 in North Karelia. This campaign is still continuing nationally, both in informing the public and working with the food industry. Finland is investigating further reduction options, such as providing 'warning' or 'better choice' labels on high salt foods, information campaigns, guidelines for food service providers and continued reformulation. It is estimated that industry has reformulated some product groups, such as bread, meat products, cheeses and ready meals to reduce their salt content by about 20-25%. This has helped produce a large reduction in average blood pressure levels and an 80-percent drop in deaths due to stroke. The majority of Finnish adults are familiar with the Heart Symbol. The Heart Symbol tells the consumer at a glance that the product marked with this symbol is a better choice in its product group regarding fat (quantity and quality) and salt [5].

In 2017, the Health Minister of France, Marisol Touraine, has announced that the five-colour Nutriscore will be the official voluntary food label for France, having been found to be the most effective in promoting healthy eating during a 10-week trial. Nutriscore classifies foods and beverages according to their nutritional profile by using a colour-coded system with a scale ranging from A (healthier choices) to E (less healthy choices) [3].

In 2017, Lidl Slovenia has committed to reducing sugar and salt in its private-label products by 2025. Together with the Society for the Cardiovascular Health of Slovenia, Lidl has prepared various activities to raise awareness of a healthy diet with less sugar and salt, thus actively participating in the prevention of related diseases. One of the examples of good practice in this area is its private-label meat product Sveže Meso, which contains 100% mincemeat without any additives. A heart symbol denotes food products with beneficial nutritional properties: low amounts of fats, salt and sugars [6].

In 2006, the Swedish food industry have developed a special labelling system for healthy foods known as the Keyhole Mark. Labelling with the symbol is voluntary and free of charge in Sweden, Norway, Denmark and Iceland. Choosing foods with the Keyhole symbol makes it easier and less time consuming to find healthier products in food stores which contain less salt, sugars and fats. The Keyhole system has a set of criteria for 33 product groups. It aims to stimulate manufactures to product reformulation and development of healthier products. The Swedish

National Food Agency has registered the Keyhole as a trademark and the labelling system is enforced through a regulation [7].

In US, the nutrition facts label, must include serving size, calories per serving size, calories from fat as well as the percentage of daily recommended values for fat based on a 2000 calorie diet (with listed values for saturated fat and trans-fat), cholesterol, sodium, total carbohydrates (with lines for dietary fiber and sugars), protein, plus vitamin and mineral content, expressed in terms of their percentage of daily recommended values [8].
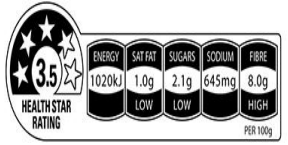
In 2020, Italy's Ministry of Agriculture approved the Nutrinform Battery food labeling system that it sees as a better alternative to the Nutriscore scheme adopted elsewhere in the EU. It considers the daily nutritional intake in order to facilitate consumers in making a conscious choice, promoting a healthy, varied and balanced nutrition. The Nutrinform presents the sodium contents and even calories, fats, saturated fats and sugars in a single food portion and compares the percentage of those contents with what is expected in a healthy daily nutritional intake [9].

The development of the Health Star Rating system was jointly funded by Australian, state and territory governments. Food manufacturers and retailers are responsible for the correct and accurate use of the Health Star Rating system. It is a front-of-pack labelling system that rates the overall nutritional profile of packaged food and assigns it a rating from ½ a star to 5 stars. Health Star rating provides a quick, easy, standard way to compare similar packaged foods. The more stars, the healthier the choice and a recommended amount of salt [10, 11].

The Healthy Choice programme focuses on promoting a balanced diet and a healthy lifestyle and is used to help consumers in making an informed choice when grocery shopping. Therefore, all product packaging and advertising materials are to carry the message "Eat All Foods in Moderation" to encourage consumers to have a balanced diet. Products carrying the symbol contain at least 25% less sodium compared to similar products. These include sauces, recipe mixes and paste, canned and processed meats, processed seafood-based foods, dried legumes, nuts and seeds [12, 13].

Tabel 1

Some examples of nutrition labelling

Country	Type of nutrition label	Graphical model	Country	Type of nutrition label	Graphical model
United Kingdom	Traffic Light labelling		Sweden Norway Denmark Iceland	Keyhole Mark	
Finland	Heart Symbol		Italy	Nutrinform Battery food labeling	
France	Nutriscore		Australia	Health Star Rating	
Slovenia	Heart symbol		Singapore	Healthy choice	

Conclusions

On account of the literature review, we found that there is a huge variation in the standards and guidelines on nutrition labelling around the world. In some countries, the food industry has developed a range of graphical models on nutrition labelling. In this way, labelling is viewed as part of a policy legal framework to address salt-related diseases and an important tool for risk management of exposure to salt intake in population.

Each type of nutrition labelling has its advantages. The metrics make consumer easier to compare the nutritional content of food items. However, in the United States, carefully researched portion sizes are meant to eliminate the need to do math and calculations at all as they present the amount of nutrients per serving. Also, the directive labels allow the consumer to choose a healthy food product that makes easier his/her decision and can reduce the level of salt intake in population.

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