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Editorial

A new initiative to prevent cardiovascular disease in the Americas by reducing dietary salt

Introduction

The World Health Organization (WHO) has indicated that increased blood pressure is the leading risk for premature death [1]. High dietary salt is an important cause of hypertension and also increases blood pressure within the normal range [2]. Reducing dietary salt is one of the most effective and cost effective interventions to reduce blood pressure and improve population health [3]. The Pan American Health Organization (PAHO) in response has convened the PAHO/WHO Regional Expert Group on Cardiovascular Disease Prevention through Dietary Salt Reduction. One of the first tasks of the expert group was to write a policy statement with the rationale and key policy recommendations to reduce dietary salt. The policy statement is published in this issue. The expert group will also develop educational resources for people in the Americas, encourage and assist in the development of surveillance mechanisms for the Americas, initiate communications and interactions with the food sector to facilitate reductions in salt additives to food and will also play a role in coordinating national and international programs for micronutrient fortification of salt. Health care professionals and scientists play critical leadership roles in national and regional programs to reduce dietary salt. It is hoped that the readership will take up these important roles in reducing dietary salt around the world.

Prevalence of hypertension

About one in four adults worldwide had hypertension in 2000 [4]. As populations age, rates of hypertension will increase. The Framingham study found that 90% of normotensive people aged 55—65 will develop high blood pressure if they reach average life expectancy [5]. By 2025, without intervention, 29% of adults around the world are expected to have hypertension [4].

In Canada, one in five adults has hypertension [6] and in the United States, 29% of adults were estimated to be hypertensive in 2003—2004 [7]. In the different countries of Latin America, the prevalence of hypertension ranges from 26% to 42% of the general adult population [8].

Non-optimal blood pressure, health and salt

WHO states that increasing blood pressure worldwide is the leading risk factor for death [1] and the second leading risk for disability by causing heart disease, stroke and kidney failure [9]. Whereas most health care professionals consider systolic blood pressure at 140 mm Hg and over to be "hypertension", the relative risk for cardiovascular diseases (CVD) begins to rise when blood pressure goes above 115 mm Hg. Thus a much wider range of non-optimal blood pressure is adversely affecting health, and has been attributed to most CVD deaths from ischemic heart disease and stroke [10].

There is strong evidence that salt added to food is a major factor increasing the blood pressure in normotensive and hypertensive people, whether adults or children. A high salt diet also increases the risk of left ventricular hypertrophy and kidney damage, is a probable cause of gastric cancer, and has possible associations with osteoporosis,

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calcium containing renal stones and increased severity of asthma. Because salty foods cause thirst they are likely an important contributor to obesity, especially among children and adolescents, through association with increased consumption of high-calorie soft drinks [11–13].

A technical report for the WHO and FAO recommends salt intake of less than 5 g/day/person, the target for a healthy diet, equivalent to 2000 mg of sodium [2]. Among the countries in the Americas where standardized and comparable sodium excretion was studied, salt intake was found to be as high as 11.5 g/day/person [14]. Data for the United States for 2005–2006 show average daily intake of sodium among people aged 2 years and over to be 1.5 times the recommended upper limit (UL) [15]. In Canada, over 85% of men and 60% of women between 19 and 70 years of age have salt intake exceeding the UL. Over 90% of Canadian children aged 4–8, and 83% of girls and 97% of boys aged 9–13 ingest more than the recommended maximum. The situation is the same in almost 80% of Canadian children between ages 1 and 3 [16].

Population-wide salt reduction is cost-effective and equitable

In 2001, the management of non-optimal blood pressure and its resulting diseases consumed about 10% of global healthcare expenditures, considered a conservative estimate. If the welfare losses due to premature death are added, the costs could be 20 times higher [10]. Effectively lowering blood pressure on a universal scale requires actions with population-wide reach. Individual advice and instruction, part of any comprehensive approach to healthy blood pressure, have a limited impact. On the other hand, reducing salt in the diet of whole populations, not only what is used at the table but more importantly what is added to processed and ready-made foods like bread, processed meats and breakfast cereals, can distribute the benefits of lowered blood pressure broadly and equitably [3,17].

Governments are justified in taking a population based approach to reduce salt intake because salt additives in food are so common. People are unaware of how much salt they are eating in different foods and of the adverse effects on their health. Children are especially vulnerable.

Lowering blood pressure through population-wide salt intake reduction is cost effective [3,18]. A strategy that combines mass-media awareness campaigns with regulation of the salt content of food products has been estimated to cost between $0.04 and $0.32 US per person per year. Over 10 years, the strategy is predicted to avert 8.5 million deaths world-wide, mostly from CVD [3].

The savings to healthcare budgets can be dramatic. Researchers in the UK estimate that achieving dietary salt intake of less than 6 g/day could potentially reduce the need for anti-hypertensive drugs by as much as 30% [19]. Already, a 10% reduction in salt intake in the UK since 2000–2001, attributed to the combined gradual and sustained efforts of industry lowering salt in certain food products and to the Food Standards Agency's information campaign, has yielded an annual cost saving benefit of £1.5 billion [20].

In the US, if average population intake fell to 5 g/day, there could be 11 million fewer cases of hypertension, saving approximately $18 billion in healthcare and gaining about $32 billion in quality adjusted life years [21]. In Canada, reducing salt food additives is estimated to decrease hypertension prevalence by 30% and almost double the rate of successful treatment and control. Direct savings to the health system just from reduced hypertension management costs were estimated at $430 million/year [22].

Fortification alternatives

Salt is used in some areas of the Americas as a vehicle for iodine and similarly in some cases to fortify fluoride intake. Alternative vehicles for fortification exist, such as vegetable oils and milk. Changes in practice need to be coordinated with policies to reduce dietary salt.

Conclusion

Broad based actions from government, the food industry, non government organizations and the Pan American Health Organization are required to reduce dietary salt in the Americas. The benefits of such actions will be a healthier population related to a reduction in population blood pressure, reduced prevalence of hypertension and improved control of hypertension with attendant reductions in cardiovascular disease. It is likely other health benefits will be incurred as well. The PAHO/WHO Regional Expert Group and PAHO will be provide resources and expertise within the Americas to facilitate the recommended actions to reduce dietary salt. Health care professionals, scientists and government officials are encouraged to play leadership and supportive roles within their mandates.

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