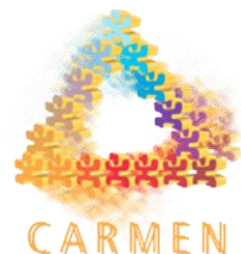




Policy Statement:

Preventing Cardiovascular Disease in the Americas by Reducing Dietary Salt Intake Population-Wide



The PAHO/WHO Regional Expert Group on Cardiovascular Disease Prevention through Dietary Salt Reduction has produced this policy statement. It has the rationale and recommendations for a population-based approach to reduce dietary salt intake among all people in the Americas, be they adults or children.

Policy Goal

A gradual and sustained drop in dietary salt intake to reach national targets or in their absence, the internationally recommended target of less than 5g/day/person by 2020.

Audience

Policy and decision makers in government, leaders in non-governmental organizations (representing consumers, health, scientific and health care professionals), civil society, the food industry (including food processors and distributors), among food importers and exporters, and in PAHO.

Rationale

- Increased blood pressure world-wide is the leading risk factor for death and the second leading risk for disability by causing heart disease, stroke and kidney failure.
- In the Americas, between 1/5 and 1/3 of all adults has hypertension and once age 80 is reached, over 90% can be expected to be hypertensive.
- In 2001, the management of non-optimal blood pressure i.e. systolic pressure over 115 mmHg consumed about 10% of the world's overall healthcare expenditures.
- As dietary salt consumption increases, so does blood pressure. Typical modern diets provide excessive amounts of salt, from early childhood through adulthood.
- The recommended intake of salt is less than 5g/day/person. In the Americas, intake can be over double the recommended level. All age groups including children are affected.
- Adding salt at the table is not the only problem. In most populations by far the the largest amount of dietary salt comes from ready-made meals and pre-prepared foods, including bread, processed meats, and even breakfast cereals.
- Reducing salt consumption population-wide is one of the most cost-effective measures available to public health. It can lower the rates of a number of related chronic diseases and conditions at an estimated cost of between \$0.04 and \$0.32 US per person per year. Population-wide interventions can also distribute the benefits of healthy blood pressure equitably.
- Governments are justified in intervening directly to reduce population-wide salt consumption 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.
- Salt intake can be reduced without compromising micronutrient fortification efforts.

Recommendations for Policy and Action

The recommendations below are consistent with the World Health Organization's three pillars for successful dietary salt reduction: product reformulation; consumer awareness and education campaigns; and environmental changes to make healthy choices the easiest and most affordable options for all people.

To National Governments

- ➔ Seek endorsement of this policy statement by ministries of health, agriculture and trade, by food regulatory agencies, national public health leaders, nongovernmental organizations (NGOs), academia, and relevant food industries.
- ➔ Develop sustainable, funded, scientifically based salt reduction programs that are integrated into existing food, nutrition, health and education programs. The programs should be socially inclusive and include major socioeconomic, racial, cultural, gender and age subgroups and specifically children. Components should include:
 - ✓ Standardized food labeling such that consumers can easily identify high and low salt foods.
 - ✓ Educating people including children about the health risks of high dietary salt and how to reduce salt intake as part of a healthy diet.
- ➔ Initiate collaboration with relevant domestic food industries to set gradually decreasing targets, with timelines, for salt levels according to food categories, by regulation or through economic incentives or disincentives with government oversight.
- ➔ Regulate or otherwise encourage domestic and multinational food enterprises to adopt the lowest of a) best in class (salt content to match the lowest in the specific food category) and b) best in world for the national market (match the lowest salt content of the specific food produced by the company elsewhere in the world).
- ➔ Develop a national surveillance system with regular reporting to identify dietary salt intake levels and the major sources of dietary salt. Monitor progress towards the national target(s) for dietary salt intake or the internationally recommended target.
- ➔ Review national salt fortification policies and recommendations to be in concordance with the recommended salt intake.
- ➔ Extend official support to the Codex Alimentarius committee on food labeling for salt/sodium to be included as a mandatory component of nutrition labels.
- ➔ Develop legislative or regulatory frameworks to implement the World Health Organization (WHO) recommendations on advertising of food products and beverages to children.

To Nongovernmental Organizations, Healthcare Organizations, Associations of Health Professionals

- ➔ Endorse this policy statement
- ➔ Educate memberships on the health risks of high dietary salt and how to reduce salt intake. Encourage involvement in advocacy. Monitor and promote presentations on dietary salt at national meetings and the publication of articles on dietary salt.

- ➔ Promote and advocate media releases on dietary salt reduction to reach the public, including children and particularly women given their integral roles in family health and food preparation.
- ➔ Broadly disseminate relevant literature.
- ➔ Educate policy and decision makers on the health benefits of lowering blood pressure among normotensive and hypertensive people, regardless of age.
- ➔ Advocate policies and regulations that will contribute to population-wide reductions in dietary salt.
- ➔ Promote coalition building, increase organizational capacity for advocacy and develop advocacy tools to promote civil society actions.

To the Food Industry

- ➔ Endorse this policy statement.
- ➔ Make current best in class and best in world low salt products and practices universal across global markets as soon as possible. Make salt substitutes readily available at affordable prices.
- ➔ Institute reformulation schedules for a gradual and sustained reduction in the salt content of all existing salt-containing food products, restaurant and ready-made meals to contribute to achieving the internationally recommended target or national targets where applicable. Make all new food product formulations inherently low in salt.
- ➔ Use standardized, clear and easy-to-understand food labels that include information on salt content.
- ➔ Promote the health benefits of low salt diets to all peoples of the Americas.

To the Pan American Health Organization

- ➔ Ensure good communications and information sharing between regional and international initiatives to foster best practices.
- ➔ Develop a template for national report cards and report to Member States on comparative national baselines and progress at pre specified time points (e.g. in 2010 the baseline, progress in 2015 and 2020).
- ➔ Work with Member States to monitor dietary salt consumption in the Americas.
- ➔ Develop and foster a network of endorsing governments, NGOs, and expert champions on dietary salt in the Pan American region.
- ➔ Develop a web based 'toolbox' with educational materials and programs on dietary salt for the public, patients, health care professionals that are culturally appropriate to sub-regions of the Americas.
- ➔ Develop and advocate conflict of interest guidelines to assist health organizations and scientists in the Pan American region in their interactions with the food industry.
- ➔ Foster research on the economic and health impacts of high dietary salt in the countries and sub-regions of the Pan American region.

- ➔ Assist Member States to revise national and sub-regional fortification programs to be consistent with efforts to reduce dietary salt.
- ➔ Collaborate with the Food and Agriculture Organization (FAO), UNICEF, the *Codex Alimentarius* Commission and other relevant UN bodies to achieve a consistent and coordinated approach to reducing dietary salt.
- ➔ Educate policy and decision makers on the health benefits of lowering blood pressure among normotensive and hypertensive people, regardless of age.
- ➔ Advocate policies and regulations that will contribute to population-wide reductions in dietary salt.

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* The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the respective agencies.

Background

Prevalence of Hypertension

About one in four adults worldwide had hypertension in 2000. (1) As populations age, rates of hypertension will increase. The Framingham study found that 90% of normotensive people aged 55 to 65 will develop high blood pressure if they reach average life expectancy. (2) By 2025, without intervention, 29% of adults around the world are expected to have hypertension. (1)

In Canada, one in five adults has hypertension (3) and in the United States, 29% of adults were estimated to be hypertensive in 2003-04. (4) In the different countries of Latin America, the prevalence of hypertension ranges from 26 to 42% of the general adult population. (5)

Non-Optimal Blood Pressure, Health and Salt

WHO states that increasing blood pressure world-wide is the leading risk factor for death (6) and the second leading risk for disability by causing heart disease, stroke and kidney failure. (7) Whereas most health care professionals consider systolic blood pressure at 140 mmHg and over to be “hypertension”, the relative risk for cardiovascular diseases (CVD) begins to rise when blood pressure goes above 115 mmHg. 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. (8)

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, 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. (9,10,11)

A technical report for the WHO and FAO recommends salt intake of less than 5g/day/person, the target for a healthy diet, equivalent to 2000 mg of sodium. (12) Among the countries in the Americas where standardized and comparable sodium excretion was studied, salt intake was found to be as high as 11.5g/day/person. (13) Data for the United States for 2005-06 show average daily intake of sodium among people aged 2 years and over to be 1.5 times the recommended upper limit (UL). (14) 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 to 8, and 83% of girls and 97% of boys aged 9 to 13 ingest more than the recommended maximum. The situation is the same in almost 80% of Canadian children between ages 1 and 3. (15)

Population-Wide Salt Reduction Is Cost-Effective and Equitable

In 2001, the management of nonoptimal 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. (8) 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. (16,17)

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. (17,18) 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. (17)

The savings to healthcare budgets can be dramatic. Researchers in the UK estimate that achieving dietary salt intake of less than 6g/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 2000-01, attributed to the combined gradual and sustained efforts of industry lowering the 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 5g/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.

References

- 1 Kearney PM, Whelton M, Reynolds K, Muntner P, Whelton PK, He J. Global burden of hypertension: analysis of worldwide data. *Lancet*. 2005;365:217-23.
- 2 Vasani RS, Beiser A, Seshadri S, Larson MG, Kannel WB, D'Agostino RB, Levy D. Residual lifetime risk for developing hypertension in middle-aged women and men: The Framingham Heart Study. *JAMA*. 2002;287:1003-10.
- 3 Joffres MR, Ghadirian P, Fodor JG, Petrasovits A, Chockalingam A, Hamet P. Awareness, treatment and control of hypertension in Canada. *Am J Hypertens*. 1997;10:1097-1102.
- 4 Ong KL, Cheung BMY, Man YB, Lau CP, Lam KSL. Prevalence, awareness, treatment and control of hypertension among United States adults 1999 –2004. *Hypertension*. 2007;49:69-75.
- 5 Sanchez RA, Ayala M, Baglivo H, Velazquez C, Burlando G, Kohlmann O, Jimenez J, Jaramillo PL, Brandao A, Valdes G, Alcocer L, Bendersky M, Ramirez AJ, Zanchetti A; Latin America Expert Group. Latin American guidelines on hypertension. *J Hypertens*. 2009;27:905-22.
- 6 World Health Organization. The World Health Report 2002: Reducing risks, promoting healthy life. Available at: <http://www.who.int/whr/2002/en/>. Accessed September 13, 2009.
- 7 Hsu C, McCulloch CE, Darbinian J, Go AS, Iribarren C. Elevated blood pressure and risk of end-stage renal disease in subjects without baseline kidney disease. *Arch Intern Med*. 2005;165:923-28.
- 8 Gaziano TA, Bitton A, Anand S, Weinstein MC for the International Society of Hypertension. The global cost of non-optimal blood pressure. *J Hypertens*. 2009; 27:1472-77.
- 9 He FJ, MacGregor GA. A comprehensive review on salt and health and current experience of worldwide salt reduction programmes. *J Hum Hypertens*. 2009;23: 363-84.
- 10 Feng J, MacGregor GA. Importance of salt in determining blood pressure in children: Meta-analysis of controlled trials. *Hypertension*. 2006;48:861-69.
- 11 Mohan S, Campbell NRC, Willis K. Effective population-wide public health interventions to promote sodium reduction. *CMAJ*. 2009;DOI:10.1503/cmaj.090361. Available at: <http://www.cmaj.ca/cgi/rapidpdf/cmaj.090361v1.pdf>. Accessed October 20, 2009.
- 12 World Health Organization. Reducing salt intake in populations: Report of a WHO forum and technical meeting, 5-7 October 2006, Paris, France. Available at: http://www.who.int/dietphysicalactivity/Salt_Report_VC_april07.pdf. Accessed September 13, 2009.
- 13 Intersalt Comparative Research Group. Intersalt: an international study of electrolyte excretion and blood pressure. Results for 24 hour urinary sodium and potassium excretion. *BMJ*. 1988;297:319-28.
- 14 Centers for Disease Control and Prevention. Application of lower sodium intake recommendations to adults - United States, 1999-2006. *MMWR Morb Mortal Wkly Rep*. 2009;58:281-3.
- 15 Garriguet D. Sodium consumption at all ages. *Statistics Canada Health Reports*. 2007;18:47-58. Available at: <http://www.statcan.gc.ca/pub/82-003-x/2006004/article/sodium/9608-eng.pdf>. Accessed September 7, 2009.

- 16 Feng JH, MacGregor GA. Salt in food. *Lancet*. 2005;365:844-45.
- 17 Asaria P, Chisholm D, Mathers C, Ezzati M, Beaglehole R. Chronic disease prevention: health effects and financial costs of strategies to reduce salt intake and control tobacco use. *Lancet*. 2007;370:2044-53.
- 18 Murray CJ, Lauer JA, Hutubessy RC, Niessen L, Tomijima N, Rodgers A, Lawes CM, Evans DB. Effectiveness and costs of interventions to lower systolic blood pressure and cholesterol: a global and regional analysis on reduction of cardiovascular disease risk. *Lancet*. 2003;361:717-25.
- 19 Walker J, MacKenzie AD, Dunning J. Does reducing your salt intake make you live longer? *Interact Cardiovasc Thorac Surg*. 2007;6:793-98.
- 20 Food Standards Agency (UK). Agency publishes 2012 salt reduction targets. Monday 18 May 2009. Available at: <http://www.food.gov.uk/news/pressreleases/2009/may/salttargets>. Accessed September 22, 2009.
- 21 Palar K, Sturm R. Potential societal savings from reduced sodium consumption in the US adult population. *Am J Health Promotion*. 2009;24:49-57.
- 22 Joffres MR, Campbell NR, Manns B, Tu K. Estimate of the benefits of a population-based reduction in dietary sodium additives on hypertension and its related health care costs in Canada. *Can J Cardiol*. 2007;23:437-43.