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REVIEW

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Interested in developing a national programme to reduce dietary salt?

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High dietary salt is a major contributor to increased blood pressure, the leading risk for death worldwide. In several countries, national programmes to reduce dietary salt have been implemented with leadership and involvement of hypertension experts. Other hypertension experts may be interested in assisting or leading a national programme to reduce dietary salt, however, may not have the experience or training to do so. The article is based on the experiences of three hypertension experts who have led the development of national dietary salt reduction programmes in the United Kingdom, Australia and Canada. The article advises developing leadership and a coalition, conducting a nation-specific environmental scan of facilitators and barriers, estimating the national health and financial costs of high dietary salt and the benefits of reducing salt intake, obtaining core documents to provide the scientific rational for the programme, developing a policy statement to outline the required actions to be undertaken, engaging government and industry, using media to gain public support, overcoming industry supported opposition and sustaining the effort long term. Resources and potential sources for international collaboration are provided as well as caveats for developing the programme within the specific nations' context and overall effort to improve health. Developing and leading a national salt reduction programme is a major commitment, however, reducing dietary salt is estimated to be one of the most effective strategies to improve a nation's health.
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Introduction

Human dietary salt intake has increased ~10-fold over the last few hundred years.[1,2] This rise in dietary salt consumption causally increases blood pressure. Our current high salt intake is a probable promoter of gastric cancer and is associated with osteoporosis for which there is a strong pathophysiological basis. Salt is also associated with increased asthma severity, calcium-containing renal stones, progression of renal disease and obesity.[3–5] Elevated blood pressure is the leading risk for premature death in the world and excess consumption of dietary salt increases the blood pressure of infants and children, normotensive and hypertensive adults.[6–9] High dietary salt intake is estimated to cause some 30% of all cases of hypertension[10] and to be the seventh leading risk for premature death in a developed country (the United States) and the second leading risk in a country with a developing economy (Chile).[11,12] Centrally implemented strategies that seek to reduce dietary salt through modification of the food supply are viewed to be among the most cost effective possible interventions for improving health in low to middle income countries and is highly cost effective if not cost saving in developed countries.[13–15] Reducing dietary salt is advocated by the World Health Organization (WHO), most countries and cardiovascular organizations.[16–21] The very large preventable disease burden coupled with clear well understood cost effective mechanisms to reduce dietary salt indicate urgent action is required. Hence, many individuals and especially those with an expertize in blood pressure and preventing cardiovascular disease are interested in ensuring their country has governmental policies and an active programme for reducing dietary salt.

Unfortunately, the training and experience of most hypertension and cardiovascular experts does not prepare them for advocating for government

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policy or developing nongovernmental national programmes to reduce dietary salt. The manuscript outlines a sequence of steps that need to be taken although many can occur concurrently. The WHO and Pan American Health Organization are developing tools and resources for national salt reduction programmes that will assist the interested reader. All programmes will require adaptation to the national situation.

This manuscript provides the insight of three hypertension experts who have led advocacy-based approaches to develop programmes to reduce dietary salt and encourage government policy development in the United Kingdom,[5] Canada[22] and Australia.[23] Dr Macgregor developed and leads the Consensus Action on Salt and Health a successful advocacy group in the United Kingdom that was a precursor to the UK salt reduction programme (The UK provides a model for salt reduction in many other countries of the world). Dr MacGregor also formed and leads World Action on Salt and Health to advocate for international reductions in salt and for the development of salt reduction programmes around the world. Dr Neal developed and leads the Australian branch of World Action on Salt and Health the lead organization advocating a national salt reduction programme in Australia and is a senior director of the George Institute where he has been assisting countries in the Asian Pacific region to develop salt reduction programmes. Dr Campbell developed and led a national advocacy programme to reduce salt in Canada and Chairs the Pan American Health Organization Expert Group to facilitate the development of national programmes to reduce dietary salt in countries in the Americas.

Leadership

One of the most important considerations is leadership. Leadership roles can be shared by several individuals and changed over time, but strong focussed leadership is critical to ensure advocacy and programme development will succeed. The leader must be prepared to sustain the advocacy programme as a top priority and be prepared to dedicate substantive professional and personal time. The leadership should be closely associated with a highly regarded health-related organization to access required resources and to garner respect in the health care community. At the same time, it is very helpful if such organizations are backed by other experts in salt and blood pressure in that country as this allows the organization to speak on behalf of all of the experts in the country and gives a strong scientific backing to statements from the organization. Barriers and challenges to reducing dietary salt by industry, industry-associated umbrella organizations and their advocates and occasionally by governments need to be anticipated by the leader.[24] Most salt reductions programmes will have a life span of potentially decades and, hence, succession planning and shared responsibility is necessary. Building the leadership of the advocacy programme into the structure of the health organization may aid succession planning. Sadly and paradoxically an expected challenge to potential academic leaders is the low value many academic organizations and universities place on efforts to change health policy to improve heath.

Environmental scan of facilitators and barriers to the programme

A very early step for the leader is identifying the factors that will be an aid or barrier to the programme. Key factors will include the current national policy regarding dietary salt, organizations and individuals that will support the national programme. Among the potential barriers are the food and salt-based companies, food and salt company-based trade associations, and 'scientific' or 'health' organizations developed by or strongly supported by the food or salt industry, as well as industry-paid consultants. Occasional independent scientists may oppose the programme; however, most of these individuals will respond appropriately when provided with the supporting evidence. Given the strength of evidence it would be unexpected that a credible health organization would oppose a programme to reduce dietary salt and many will provide strong support.

Estimating the impact of the programme on the health of the country

To influence policy makers and to attract support from national health and scientific organizations it is important to estimate the potential impact of reducing dietary salt on the health of the country.[5,10–13,25] There are several methods and published studies to aid in the development of a national estimate. Most estimates require data on the intake of salt, the prevalence of hypertension and cardiovascular disease and some models require more comprehensive national health data. If there is inadequate national data, estimates using data from similar countries or using other nation's estimates can be used but are likely to have less influence on policy makers.

Building support

A crucial step is the development of a strong advocacy programme with a foundation of supporters (that is, a coalition or network). The coalition can be made up of individuals, organizations or both. Typically the coalition contains a core of dedicated credible individuals who may or may not represent health care professional and scientific

organizations. This core group will develop strategies and tactics for the salt reduction programme. The core group must remain small to be flexible and rapidly respond to any challenges in the programme. Around this core group of individuals is advised to be a larger group of individuals and preferably health and scientific organizations that will endorse and or support the effort. This may include representatives from motivated industry partners if supportive corporate entities can be identified. At least one of the core groups should have public media/communications personnel to run a publicity programme based on media releases to gain public support. Expert advice from or engagement of experts in advocacy and public policy is also useful. The more representative the coalition is of the national health care sector the more credible the effort will be with government, industry, media and the public.

Establish a solid scientific basis for the salt reduction programme

Develop a core set of recent scientific publications, reviews and policy statements from credible national and international groups that can be used to address questions of importance and scientific validity.[3,20,22,26,27] These can include WHO documents, national dietary recommendations and their supporting reviews or critical appraisals of the literature performed by scientific organizations or governments (see http://new.paho.org/ and search salt). These documents are used to address issues of scientific credibility of the programme. Scientific, health care professional and public summaries and power point presentations of the literature are useful to provide standardized and simple educational messages. These can be used by the coalition of supporting organizations to educate the scientific and health care professional communities of the country and can be used for public education by these groups. Templates of educational material are available (http://www.worldactiononsalt.com/ see PAHO website above, www.lowersodium.ca, www.sodium101.ca).

Develop a policy statement

Develop a policy statement including the scientific rationale for the national programme and actions required by government, industry and the health care sector. Useful documents that can be used as templates have been produced by Hypertension Canada (http://hypertension.ca/bpc/about/policies/ accessed 20 September 2010), the Pan America Health Organization,[28] the Institute of Medicine[26] and Health Canada.[22] The WHO is also currently developing documents to aid countries with the development of programmes to reduce dietary salt through three platforms being held in 2010–2011. The Policy Statement should be broadly circulated for consideration of endorsement by the organizations of the coalition and other national health and scientific organizations.

Interacting with industry and government

In general, direct approaches to industry and government are best once there is a unified coalition of scientific and health care professional organizations backing the programme unless there is specific evidence indicative of early support from these sectors. The primary reason for delay is to ensure there is strong health and scientific community support before facing potential opposition. Direct approaches to government with requests for the government to interact or oversee the interaction with the food sector may be most efficient as interactions with industry can be very energy and time consuming. The approaches to government should be at a political, as well as an administrative level. Often salaried government officials will welcome support from the health care community to advocate for national programmes to improve health, whereas sadly politicians often seem more concerned about potential negative reactions from the food industry. Advice from experts in public policy should be considered when approaching government departments and politicians. Multinational companies are generally aware of the worldwide effort to reduce dietary sodium and most have made some commitments to reduce salt in some products in some areas of the world with a few companies having made global commitments. Some companies may take on a strong positive role to improve public image, but many may openly or behind closed doors oppose the programme to reduce dietary salt. Persistence over time, use of media and the health care coalition and its policy statement is usually required to ensure the programme is taken up by government and industry.

One major question is should the salt reduction programme in countries be carried out voluntarily—the ‘carrot and stick approach’ or should there be legislation or a salt tax, for example, based on the declared sodium or salt label of the food. The latter two would lead to great difficulty in legislating with years of delay. Our view is that the best way to proceed, which has been successful in the UK, has been on a voluntary basis but with the threat of legislation and continuous media publicity about the salt content of different companies on the same range of products, that is, across breads, cereals, ready prepared meals and so on. This spurs companies into action and also acts as a major incentive for them to conform to the salt targets that have been set. Different countries may have different views on this. If successful the voluntary approach will lead to a reduction in salt intake over a much

shorter period of time, although the final target will not be reached for at least a decade as salt reduction has to be done slowly in order for consumers to adjust to the lower salt content of food and not reject the foods. This is certainly true in the UK where most of the common supermarket products have been reduced by 20–30% without the public being aware because it is has been done gradually.

Use media to engage the public and politicians

The media and public are generally very interested in food additives that harm their health and media have been heavily engaged in the indicated national programmes to date. One or more of the coalition organizations should lead media releases and several media experienced and well informed spokespersons should be appointed to support the media releases. Public support is highly motivating to politicians. Media are specifically interested in the population consumption of salt relative to recommended levels, the harmful health effects of sodium on the population and the benefits of reductions, the policy statement if endorsed by influential health organizations, and comparisons of the salt contents of foods and especially are interested if your country has higher salt in a specific companies foods than the company has in other countries. The failure of companies to commit to lower salt in their foods when the same company has committed in other countries is also of interest. If resources can be identified to systematically record the salt content of processed and fast foods each year in a database, there is enormous opportunity to use the outputs. Individualized reports to companies showing how one compares to another and associated media releases generate huge media and political interest.[29,30]

Industry supported public opposition to the salt reduction programme

In general, those with financial or secondary benefits (for example, personal media attention) from opposing the salt reduction programme are best dealt with by citing national and interactional scientific documents and position statements. Opponents, especially if consultants paid by industry, can often be ignored once there is a strong heath care community and scientific community support and once media has been made aware of the issue. Although media thrives on controversy, most reporters and representatives of the media are cognizant of the role of conflicts of interest in hindering public health and rarely will propagate the perception of controversy in the long run if there is a consensus from the major national health care organizations.

Maintaining action in the long term

Once government and industry are actively engaged, the national government may take a central role. At this time, the advocacy programme needs to look at long-term maintenance. Is the government taking appropriate and rapid action? If not media releases can stimulate action as people are dying and being disabled with each delay and the human costs of delay can be estimated and the nation's progress benchmarked against other countries. Ensure the coalition advocates for the key components of a national salt reduction programme including (1) a heavily scrutinized or regulated reduction in salt additives with targets and timelines, (2) an evaluation programme to assess salt intake, sources of salt and salt content of foods over time with the results available in a public domain, (3) a broad based awareness and education programme and (4) a research programme to support reductions in salt consumption. Regular media releases on the results of monitoring of the salt content of foods from the evaluation programme are useful to sustain long-term public interest and regular communication with the coalition is important to keep the coalition engaged and committed over time.

Form international partnerships

International partnerships allow the sharing of best practices and should be pursued. Often advocates from other countries can be of great aid in helping to establish a national programme. The World Action on Salt and Health and the World Hypertension League are resources for linking to other interested experts from around the world. The WHO and its regional offices are forming networks and expert groups to aid the development of national salt reduction programmes that may also be of help. Every national government in the America's has been requested by the Pan American Health Organization to endorse a policy statement supporting central action to reduce dietary salt and most European countries have agreed a reduction in salt in several food categories in an effort coordinated by the European Region of the WHO.

Using the coalition to develop supporting and broader health policy

Often high salt intake is in an environment of inadequate health policies and other unhealthy eating practices by the population. It is helpful to ensure reduction in salt is partnered with other health policies including clear easy to understand food labels (especially if the labels warn the consumer about high salt content), bans of advertising food to children, and regulation of salt additives in children's foods and so on. There are many health issues that directly or indirectly influence

hypertension, including the mass consumption of processed foods that are high in caloric density, high in additives of saturated and *trans* fats and simple sugars and have had the removal of much of the foods natural fibre, potassium, calcium and magnesium. Strategically salt reduction programmes can be integrated with programmes to improve the overall health profile of foods but taking on too ambitious a programme may reduce the feasibility of the salt reduction programme. At a minimum the salt reduction programme should evaluate and ensure that companies do not make foods healthier by reducing salt and less healthy by changing other constituents. It is important to not diffuse the need to inform the public about dietary salt by using a simple 'Eat healthy' message.

National context

In developed countries, processed foods make up the vast majority of salt consumption. In some countries with developing economies, salt added at home or cooking may be the major source of salt or there may be different socioeconomic strata of the population with different sources of salt. The national strategy must be tailored to address national facilitators and barriers, sources of salt and the current readiness of the nation to reduce dietary salt. The public and politicians in some countries or at certain times may not be receptive to developing national salt reduction policies for a wide variety of reasons such as strong influence of industry in the political party, political beliefs that government should not interfere in food production, an acute public health issue (for example, pandemic of infectious illness), war or wide-spread internal violence.

Discussion and conclusions

Hypertension is to a large extent preventable through the implementation of lifestyle changes (diet, physical activity and excess alcohol consumption).[31] However, health care professionals, scientists and their organizations tend to focus on the clinical management options and often do not actively engage in advocacy to ensure populations benefit from the research on primary prevention and control. In the last several decades, there has been increasing activity to implement community programmes to reduce dietary salt to improve health initiated nationally first by the governments of Finland and Japan.[32] More recent national programmes to reduce dietary salt have largely been initiated through the advocacy of an increasing number of health care professionals and scientists; however, most countries still do not have national programmes.[32] Urgent national actions are needed to stem the growing global epidemic of hypertension and its related disease burden.[33] It is hoped this manuscript will stimulate others to join the effort to reduce dietary salt in their countries and also to develop advocacy programmes to more broadly prevent and control hypertension.

Conflict of interest

Dr Bruce Neal has in the past 5 years been a Consultant/Advisor or received fees for attending a meeting from Pfizer (2005), Roche (2009), Takeda (2010), Pepsico (2010); Lecture fees (honoraria), travel fees or reimbursements when speaking at the invitation of a commercial entity—Amgen (2007), AstraZeneca (2010), GlaxoSmithKline (2007), Pfizer (2007), Roche (2005), Sanofi Aventis (2006), Servier (2008), Tanabe (2007); Research support from a commercial entity—Johnson and Johnson (2011), Merck Schering Plough (2011), Roche (2011), Servier (2010), United Healthcare Group (2011). Dr Neal interacts regularly with multiple large corporations in the Pharmaceutical Industry, the Food Processing Industry and the Quick Service Restaurant industry in Australia and overseas, in his efforts to achieve negotiated solutions to major public health problems. Dr Campbell has received travel support and a speaker fee from Boehringer Ingelhiem in 2010 but has no other conflicts of interest in the past 2 years, and Dr MacGregor has no conflicts of interest.

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