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Beyond the Clinic: Importance of Community Involvement in Sodium-Reduction Efforts

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Abstract

Excessive sodium intake is a serious public health problem that is amenable to intervention. Despite campaigns that often target individuals to encourage lower sodium intake, consumption is far in excess of recommendations. There is increasing recognition of the importance of the food environment in shaping dietary behavior and the need for strategies that focus on changing community-level environmental factors that support a shift in behavior toward more healthful eating. Practice-based evidence should be coupled with evidence from well-conducted clinical studies of sodium and health to build the foundation for public health interventions that achieve and sustain sodium reduction in the general population. This article discusses the importance of moving beyond the clinic and engaging communities in this important public health effort.

Keywords

community; intervention; public health; salt; sodium

A substantial body of clinical research has examined the relationship between higher-than-recommended sodium intake and blood pressure as well as other health outcomes. Study designs and approaches including animal studies,^{1–3} human genetic studies,^{4,5} observational epidemiologic studies,^{6–14} controlled interventions,^{15–24} and meta-analyses^{25–27} provide evidence that excessive sodium intake increases blood pressure in human populations. There is also evidence from research studies showing that sodium reduction might reduce the risk of gastric cancer, end-stage kidney disease, left ventricular hypertrophy, congestive heart failure, and osteoporosis.²⁸

Worldwide, high blood pressure is a leading cause of preventable morbidity and mortality.²⁹ Given the relationship of high blood pressure to increased risk of heart disease, stroke, congestive heart failure, and kidney disease, excessive sodium intake is a serious public health problem that is amenable to intervention. Despite campaigns that often target individuals to encourage lower sodium intake, consumption is far in excess of recommendations. In the United States, dietary sodium intake averages approximately 3400

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mg/d, although less than 2300 mg/d is recommended by the *Dietary Guidelines for Americans* for the general population.³⁰ For certain population subgroups, the *Dietary Guidelines for Americans* recommends 1500 mg/d. Furthermore, adherence to recommended levels of sodium intake is extremely low in the United States, and most age groups including children have an average sodium intake that is much higher than recommended.³¹ In fact, less than 10% meet the recommendation for less than 2300 mg/d and less than 2% meet the recommendation for less than 1500 mg/d.³² Difficulties in adherence are likely due to the fact that the most common dietary sources of sodium are commercially processed foods.^{33,34}

Proposed strategies for sodium reduction include reducing sodium in the food supply and motivating consumers to express a desire for easy access to healthful foods, enabling them to meet the recommendations of the *Dietary Guidelines for Americans*.³⁵ There is also increasing recognition of the importance of the food environment in shaping dietary behavior and the need for strategies that focus on changing community-level environmental factors that support a shift in behavior toward more healthful eating. Data suggest that neighborhood availability of healthful foods influences eating patterns.³⁶

The success of sodium-reduction strategies hinges on finding successful approaches to engage multiple stakeholders, especially communities, in innovative and effective strategies that will be sustainable. Several articles in this supplement describe environment-level changes (eg, encouraging scratch cooking and changing policies on procurement sources) in a variety of settings (eg, schools, restaurants, and community meal programs) for a variety of populations (eg, children, adults, and the elderly). These articles demonstrate that community-based programs have the potential to change food environments, hopefully ensuring improved ability to meet guidelines. The authors discuss the importance of motivating individuals to care about sodium intake, educating food service staff, communicating with consumers to create a demand for healthful foods, and providing them with skills and tools to reduce their sodium intake when desired.

There is a need for further collective action to replicate successful strategies and to develop and implement additional approaches. Existing voluntary sodium-reduction initiatives in some US communities are admirable and should be replicated so that all communities can meet dietary guidelines. In addition, several countries including the United Kingdom, Finland, and Ireland have implemented aggressive public health programs to reduce salt intake. In the United States, a positive step is that several food manufacturers, through the National Salt Reduction Initiative, are reformulating products and have pledged to gradually reduce the sodium content of key foods in coming years. Furthermore, to the extent possible, data should be generated to provide evidence to support these approaches.

Reducing sodium intake and the resultant changes in cardiovascular health in the population also mean focusing greater attention on those who are at greatest risk. Studies show that a higher percentage of individuals from racial/ethnic minority groups and individuals with lower socioeconomic status have limited access to healthy foods.³⁷ These populations also have higher rates of cardiovascular diseases and risk factors for cardiovascular diseases.^{38,39} Special efforts should be made to ensure that community-level sodium-reduction efforts reach all populations, especially those at highest risk.

Practice-based evidence such as the projects described in this issue of the Journal, coupled with evidence from well-conducted clinical studies of sodium and health, will continue to build the foundation for public health interventions that achieve and sustain sodium reduction in the general population. Let's move beyond the clinic and engage our communities in this important public health effort.

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