

Why Is Creating a Healthy Food Environment So Crucial to Making Improvements in Diet-Related NCDs?

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Summary Non-communicable diseases (NCDs) such as cardiovascular diseases, cancers, chronic respiratory diseases, and diabetes are the leading cause of death worldwide. To decrease the global burden of NCDs and strengthen national efforts to combat NCDs, the World Health Organization (WHO) released the Global Action Plan for the Prevention and Control of NCDs 2013–2020. This plan provides established procedures and several policy options for member countries and other partners. Although many countries recognize that prevention of NCDs is an important health priority, their governments currently face a challenge: How do they adopt a multi-sectoral approach to promoting a healthy lifestyle among their populations? For this, all sectors of the food system (primary production, food processing, distribution, marketing, retail, catering, and food service) need to coordinate with each other for future governance. Since regulatory policy intervention areas for diet-related NCDs are widespread throughout the global food system, for future perspectives, comprehensive and coordinated approaches are needed for policy development and implementation across all levels of governments and food sectors in order to ensure sustainable policy action.

Key Words non-communicable diseases, nutrition policy, food environment

According to the World Health Organization (WHO), non-communicable diseases (NCDs) cause more than 36 million deaths annually. Elevated blood pressure is the leading risk factor (approximately 16.5%), followed by tobacco use (9%), elevated blood glucose level (6%), physical inactivity (6%), and overweight and obesity (5%). Unhealthy diet is one of the modifiable risk factors for NCDs; approximately 1.7 million deaths occur due to low fruit and vegetable consumption. In many countries, an unhealthy diet is noted in both high- and low-income groups. However, high-income groups can access services and products that protect them from the health-related risks, but low-income groups often cannot afford such products or services. Therefore, interventions to improve the food environment and provide universal access to a healthy lifestyle for the entire population are essential for the control of NCDs.

To develop a food environment in line with the Dietary Guidelines, a variety of strategies is needed, such as those that increase access to affordable healthy foods in the community or add to individuals' knowledge of healthy food choices and encourage them to try these options. Although the awareness of the importance of interventions for a healthy food environment has increased, we are still unaware of the impact of a healthy food environment on healthy eating and health outcomes. Therefore, in this study, we reviewed certain policies and programs that have been implemented to create a healthy food environment in order to combat diet-related NCDs worldwide and discuss possible barriers for future implications.

1. Global Action Plan for the Prevention and Control of NCDs

The “Global monitoring framework on NCDs” by the WHO tracks implementation of the “Global Action Plan for the Prevention and Control of NCDs 2013–2020”; it monitors and reports achievement of the 9 voluntary global targets for NCDs, which are to be met by 2025. Four behavioral risk factors are included in these targets: tobacco use, unhealthy diet, physical inactivity, and harmful use of alcohol. In terms of unhealthy diet, salt/sodium intake was selected as a global target, and member countries are urged to achieve “30% relative reduction in mean population intake of salt/sodium.” Additional indicators of the global monitoring framework related to diet include intake of saturated fatty acids, and fruits and vegetables. Table 1 presents examples of comprehensive multi-sectoral plans and potential outcomes for the diet-related global target and monitoring framework for NCDs. Nutrition education, including development of a healthy food environment, can be delivered at multiple venues by multiple stakeholders. Therefore, involvement and collaborations of various stakeholders are essential to ensure an optimal diet or secure food for people worldwide.

2. Food Marketing

Countries differ in their approach toward regulation of food marketing including television advertising. However, many countries recognize children as a group in need of special consideration and stipulate that advertising should not be harmful or exploitative of their credulity. A study in 2012 that surveyed 6 sites across the Asia-Pacific region including China, Indonesia, Malay-

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Table 1. Examples of comprehensive multi-sectoral actions and potential outcomes for the diet-related global target and monitoring framework for NCDs.

Framework element	Unhealthy diet
Global target	<ul style="list-style-type: none"> • A 30% relative reduction in mean population intake of <u>salt/sodium</u>
Indicators	<ul style="list-style-type: none"> • Age-standardized mean population intake of <u>salt (sodium chloride)</u> per day in grams in persons aged 18+ y (Additional) • Age-standardized mean population of total energy intake from <u>saturated fatty acids</u> in persons aged 18+ y • Age-standardized prevalence of persons (aged 18+ y) consuming less than five total servings (400 g) of <u>fruit and vegetables</u> a day • Adoption of national policies that limit <u>saturated fatty acids</u> and virtually eliminate <u>partially hydrogenated vegetable oils</u> in the food supply, as appropriate, within the national context and national programs • Policies to reduce the impact on children of marketing of foods and non-alcoholic beverages high in <u>saturated fats, trans fatty acids, free sugars, or salt</u>
Sector involved (examples)	<ul style="list-style-type: none"> • Legislature • Ministries of trade, agriculture, industry, education, urban planning, energy transport, social welfare and environment • Local government
Multi-sectoral action (examples)	<ul style="list-style-type: none"> • Reduce amounts of salt, saturated fat and sugars in processed foods • Limit saturated fatty acids and eliminate industrially produced trans fats in foods • Control advertising of unhealthy food to children • Increase availability and affordability of fruit and vegetables to promote intake • Offer healthy food in schools and other public institutions and through social support programs • Intervene economically to drive food consumption (taxes, subsidies) • Guarantee food security
Desired outcome	<p>⇒ Reduced use of salt, unsaturated fat and sugars</p> <p>⇒ Substitution of healthy foods for energy-dense micronutrient-poor foods</p>

* Targeted nutrients or foods are underlined.

Source: World Health Organization. Global action plan for the prevention and control of NCDs 2013–2020, 2013.

sia, and South Korea found that 27% of advertisements on television were for food and beverages, and the most frequently advertised products were sugar-sweetened drinks (1). This study also found that junk food was advertised more commonly during the periods when children most frequently watched television: between 3 (South Korea) and 15 (Indonesia) unhealthy food advertisements were broadcast each hour. The study concluded that children in the Asia-Pacific region were exposed to numerous television advertisements on unhealthy food/beverages, but different policy arrangements for food advertising were likely to contribute to regional variations (1). For example, Seoul, South Korea, showed the lowest rate of food advertisement among the 6 sites (range, 22.0–60.8), and the frequency of advertisements for non-core foods (e.g., sugar-sweetened drinks and sugary breakfast cereals) was also the lowest (range, 2.3–16.7). To this effect, South Korea enforced the Special Act on the Safety Management of Children's Dietary Life in 2009 to limit television advertisement or sales of high-calorie foods with low-nutritional value for children (2). Moreover, the South Korean government banned offers of non-food items such as toys to

encourage the purchase. In addition, food industry self-regulation in relation to obesity prevention is an emerging trend, and it is recognized as an important addition to diet-related NCD control. However, a recent literature review (3) also pointed out a weakness of existing industry self-regulation schemes. Therefore, these regulatory approaches by the governments, in conjunction with voluntary industry approaches, are important to develop a healthy food environment in order to promote a behavior change in the population.

3. Food Outlets and Vending Machines

Foods away from home comprise an increasing proportion of energy intake in many countries and possibly contribute to poor diet quality and weight gain. In November 2014, the U.S. Food and Drug Administration (FDA) established the final directive for nationwide nutrition labeling, stating that restaurant menus and vending machines should provide caloric information. Establishments with branches at least 20 locations are now required to print calorie counts on all menu items, calorie boards, and drive-thru menus. This new rule applies to full-service or fast-food restaurants, movie

theaters, grocery stores, and other places where ready-to-eat meals are sold. Alcoholic beverages have also been added to this list. It has taken the FDA 4 y to finalize the guidelines established by the 2010 Affordable Care Act. Retailers are now granted 1 y to comply with the new rules, and vending machine operators are granted 2 y for the same.

In Asia, the Singapore Health Promotion Board launched an initiative called the Healthier Dining Program to help food and beverage companies including restaurants, caterers, and food courts to provide healthier meals for their customers; these meals include low-calorie meals and meals using healthier ingredients such as whole-grains and healthier cooking oils. In addition, the Ministry of Health, Labour and Welfare, Japan, has announced a new initiative called “Healthy Diet” to achieve healthy longevity in the Japanese population. The Japanese government introduced a new concept of “Healthy Diet”, which is a combination of cooked dishes, instead of the nutrient content of food or a combination of food groups. Major nutrient requirements, such as upper limits for the amounts of energy or sodium, were set based on the Dietary Reference Intakes for Japanese 2015 (released in 2014), and “Healthy Diet” is defined as a combination of grain dishes (unrefined grains), protein dishes and vegetable dishes. Food stores that sell ready-to-eat meals or dishes, such as convenience stores, supermarkets, and meal-delivery services, can use the certified symbol (or icon) on their products once they meet the guideline. This new initiative will be implemented from 2015.

Although some studies show that calorie or nutrition labeling on menus or packages helps consumers identify healthier foods, others suggest that labeling leads to confusion or misperception among consumers. For example, a Canadian survey (4) found that front-of-package labels such as a “traffic light” system may decrease the perceived healthiness of wholesome foods (e.g., salmon, eggs, almonds, certain types of cereals made with wheat bran fiber, and cheese) that are included in Canadians’ Food Guide. In addition, the people who need the information most, such as overweight or obese individuals, are less likely to know how to use it. Therefore, consumers should be educated properly on how to use this information on nutrition. Regulations or policies on nutrient labeling on foods across countries could influence a large number of people; however, continued research or close monitoring is necessary to gauge its effectiveness in controlling NCDs.

4. School Food Environment

Some governments are attempting to limit the sale

of unhealthy snacks to children in the school environment. For example, the U.S. Department of Agriculture (USDA) proposed a new rule called “Smart Snack in Schools,” which is being implemented in the current school year 2014–2015 in the United States. It aims to promote healthier options for all foods sold in school cafeterias, snack bars, and vending machines. The new rule sets a limit on the level of calories, fats, sugar, and sodium while ensuring that snack items predominantly comprise dairy, whole grains, protein, fruits, and/or vegetables. This new regulation will complement the standards set by the School Breakfast and School Lunch Program, which took effect as part of the Healthy, Hunger-Free Kids Act 2010. Furthermore, the Spanish Parliament approved a Law on Nutrition and Food Safety in 2011, which stated that kindergartens and schools should not be exposed to food advertising. Implementation, which is reportedly not enforced, is at the discretion of regional authorities. In South Korea, the government has banned the sale of fast foods and soda within 200 m of the selected schools to protect young students from junk foods, under the same law regulating television marketing. Although such regulatory practices are increasing, not many countries have specific regulations on in-school food marketing. Therefore, national governments and food industries need to work together in a more proactive manner to develop a healthy school food environment for children.

5. Conclusion

NCDs are the leading causes of death worldwide, and the resulting epidemic is a major challenge in many Asian countries. Therefore, concerted efforts are required to create all-sectoral plans and strategies for developing a healthy food environment in order to combat diet-related NCDs.

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