



11 Food, Food Insecurity, Nutrition, Obesity, and Health

Learning Objectives

In this chapter, you will learn to

- Determine which factors influence food choices and eating behaviour;
- Understand the causes and significance of food insecurity;
- Appreciate the complexity of issues associated with obesity;
- Estimate the probable impact of public policies relating to food on population health.

Chapter Overview

The chapter begins with an overview of the factors that shape our diet, and demonstrates that poor diet is linked to low family income and education. The high costs of healthy food and its unequal distribution across Canada negatively impacts the country's poorest citizens. In this context, the lack of affordable and accessible foods in Indigenous communities is a serious problem.

Next, the chapter looks at food and nutrition insecurity and its links to obesity, presenting the factors causing obesity and the outcomes of overweight and obesity on health. There is a significant link between diet and health and the role of media, food industry, and government policy in shaping our food beliefs and practices. Fortunately, a number of policy initiatives have been implemented in Canada and elsewhere to shape the availability and affordability of food. It is important to be aware, however, of the complexity of this problem and how “fat tax” and other policy initiatives can produce unintended consequences. The chapter ends with some suggestions on what can be done at the policy level to improve our consumption of food.

Key Terms and Concepts

Fat tax a surtax on all foods containing more than 2.5 per cent fat which was introduced in Denmark in 2011 (p. 283)

Food insecurity the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so (p. 269)

Nutrition insecurity inability to access at all the times the nutrients needed for a healthy and active life (p. 269)

Obesity excessive fat accumulation that presents challenges to health (p. 271)

Orthorexia the neurosis of believing some foods are “good” and some “bad,” some healthy and some toxic (p. 279)

Study Questions

Scroll down for answers.

1. Summarize the development of Canada’s food guide.
2. Define food insecurity and identify who is most at risk of developing food insecurity.
3. Explain the link between obesity and food insecurity
4. Identify the outcomes of severe obesity in relation to health.

Critical Thinking Questions

Scroll down for answers.

1. Identify which factors impact people’s choices and use of food. Which of them would you consider the most important and why?
2. Explain the criticisms of the Canada’s food guide. Where does this critique come from?
3. Explain the link between food insecurity and poor health. Is it a problem for Canada?
4. Outline the implications of considering obesity as disease.
5. Explain why you believe the overall diets of Canadians are healthy or unhealthy.

Annotated Multimedia Resources

1. Is Obesity Crisis Hiding a Bigger Problem? Ted Talk
https://www.ted.com/talks/peter_attia_what_if_we_re_wrong_about_diabetes/transcript?language=en#t-57866 (14:45 min)

In this TED Talk, Dr. Peter Attia suggests to reconsider the link that we make between obesity and diabetes. He claims that there is a possibility that the relationship between the two might be reversed.

2. A Big Fat Crisis – Stopping the Real Causes of the Obesity Epidemics
<https://www.youtube.com/watch?v=NBXxJrMxGZc> (15:08 min)
In this TEDX Talk, Dr. Deborah Cohen challenges the focus on individual blame for obesity. She claims that the real causes of the obesity are not in poor self-control of individuals, but in social environment.
3. Nunavut’s food insecurity “crisis”
<https://www.youtube.com/watch?v=IW0tvGldc6k> (2:09 min)
A CBC News National features a news segment on the excessively high food prices in Nunavut.
4. Do Canadian schools need a food services makeover?
<https://www.youtube.com/watch?v=1Ct7C5SPwSA> (2:09 min)
The CBC News the National describes the challenges of feeding healthy meals to children in Canadian schools.
5. Is There A Bias in Our Food Media?
<https://www.youtube.com/watch?v=J3tNhYitiO4> (14:41 min)
In this TEDX Talk, Erin Ireland, a small business owner and a food reporter, discusses the bias in media to prioritize meat over plant-based diet
6. Should the government subsidize junk food?
https://www.youtube.com/watch?v=n9eIbBTw_10 (3:36 min)
A CBS news segment examines the funding provided by the US government to the food industry that produces unhealthy foods.
7. Would a fast food tax improve public health?
<https://www.youtube.com/watch?v=I8SNDm0d-4Y> (2:19 min)
A short video from the University of Massachusetts Medical School that summarizes the results of the public health study that looks into the implications of fast food taxes for public health.
8. Study: Sugar industry downplayed heart risks of sugar
<https://www.youtube.com/watch?v=iGnRgg3JbLM> (1:45 min)
This *Fox News* episode summarizes the results of Journal of American Medical Association study that suggests that sugar industry downplayed the negative implications of sugar intake on health.

Answers to Study Questions

1. During wartime, the Canadian federal government worried about the nutritional status of civilians deteriorating due to shortages, rationing, and rising prices. It requested that the Canadian Nutrition Council, a body formed during the 1930s Great Depression, develop a set of guidelines for a nutritious diet. Canada's Official Food Rules, published in 1942, were the result. The food rules were regularly revised and broadened to include meal planning. In 1961 they became less prescriptive and more advisory in nature. The name was changed to reflect the idea that the government was providing informed guidance and not prescribing how much of what Canadians must eat. Ever since, the federal government food rules have been referred to as Canada's Food Guide. (p. 267)
2. Food insecurity is defined as "the inability to acquire or consume an adequate diet quality or sufficient quantity of food in socially acceptable ways, or the uncertainty that one will be able to do so." Especially vulnerable to food insecurity are low-income people, single mothers, rural residents, Canadian and Australian Indigenous people and, in the United States, African Americans. (p. 269)
3. There is some evidence that people facing moderate food insecurity are at risk of becoming obese. This seems particularly true of women because for women, but not so clearly for men, obesity follows the familiar health gradient. The lower a woman's income and education, the higher the probability that she will become obese. This may have to do with disordered eating patterns. For example, repeated dieting has been linked to eating disorders and obesity in women. Periods with limited amounts of food may also promote overeating when food is available. Dieting and bingeing can also induce epigenetic changes, as well as cause profound shifts in the balance of intestinal flora; both sets of changes increase the propensity to gain weight. (p. 271)
4. The outcomes of severe obesity are serious. A morbidly obese person (BMI greater than 40) can expect to live 11 years less than someone with a BMI in the 20–25 range. They can also expect health issues such as problems with joints, diabetes, high blood pressure, and heart disease. Back pain, gallbladder disease, and several types of cancer have also been linked to obesity. However, recent systematic reviews suggest people who are overweight (but not obese) may be healthier and live longer than either normal weight or obese people. And, paradoxically, obese people who have developed heart disease have a higher probability of survival than non-obese people in spite of the facts that their self-reported health, risk factors for disease, and physical activity levels are all worse than those of non-obese people. Why this should be so is not understood. (p. 274)

Answers to Critical Thinking Questions

1. There are a variety of different factors that exist:
 - the amount and stability of income and the cost of other necessities, such as housing, utilities, and basic clothing;
 - the capacity to plan and to budget, which in turn depends on a person's level of education and mental health;
 - the features of the person's home: the adequacy of food storage and the means to prepare healthy food;
 - the knowledge and skills a person has: the ability to cook, to understand food preparation and the nutritional values of different foods;

- the relative availability and affordability of foods: the accessibility of shops/supermarkets/superstores and what they stock;
- the pervasive and persuasive marketing of food choices; marketing targeting children, who in turn insist on certain products;
- a person's ethnic, cultural, religious, and family background: cultural and social factors shape perceptions of acceptable food and acceptable uses of that food;
- peer pressure, norms, and the behavioural impact of the person's social network;
- the constraints on the person's time and energy, the time they have for shopping, food preparation, sitting down to eat a proper meal, etc.

All of these factors can be traced to income and education of the individual and therefore income and education might be considered to be the most important. (p. 266)

2. The guide has been criticized over the years for supporting the consumption of meat and dairy products and emphasizing grains over fruits, vegetables, and nuts. In recent years, alternatives to animal sourced foods have appeared in the guide, and more stress has been laid on fish, fruits, and vegetables. Health Canada recently produced a version of the Food Guide for Indigenous people. The new guide, *Eating Well with Canada's Food Guide: Inuit, First Nations and Métis*, includes traditional foods and is available in several Indigenous languages. The content of Canada's Food Guide is influenced by the stakeholders and industry and therefore should be looked upon critically (p. 267).
3. Episodes of food and nutrition insecurity have been linked to poorer self-reported health, obesity in children and women, diabetes, heart disease, depression, and anxiety. Moreover, inadequately fed children do worse in school. Their cognitive, general academic, and psychosocial development are all significantly impaired. There has been a strong association between household food insecurity and compromised toddler development. Four- to 36-month-old children from food-insecure households are at elevated risk of developmental delays and impaired school readiness. In Canada, 23 per cent of single-parent households are food insecure. Food insecurity is mostly a problem of low household income (p. 269).
4. In June 2013, the American Medical Association declared obesity a "disease," rendering one third of mostly well Americans sick. The decision is highly controversial. Some hold that overweight people are being stigmatized. Others contend calling obesity a disease discounts the behavioural aspects of overeating, removing responsibility from the overweight person. Some claim this is a further example of abuse by doctors, medicalizing a social problem and failing to appreciate the cultural, economic, and political dimensions of disordered eating in America. Others see it as a money grab by the medical and pharmaceutical industries seeking to cash in on the fear, frustration, and unhappiness of people distressed by their appearance. Medical experts in other countries are divided. (p. 272)
5. Overall, diets in Canada, the United States, the United Kingdom, and Australia are not very healthy. In all four countries people consume too much red meat, refined carbohydrates, saturated fat, and too few vegetables and fresh fruit. Sugar and salt intake is excessive, and diets are insufficiently rich in folates and a number of trace elements. There is also a lack of vitamin D in diets and from available sunlight in Canada and the United Kingdom. Thirty-five per cent of sugar consumed by Canadians comes from things that are not recognizable "foods"—soft drinks, salad dressings, and candy. And people in general consume too many calories, causing progressive weight gain. (p. 276)