Consumer Food Trends

Defining Opportunities
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Economics & Competitiveness

Canadian Consumer Trends In Obesity And Food Consumption

Alberta
AGRICULTURE, FOOD AND RURAL DEVELOPMENT

CANADIAN CONSUMER TRENDS IN OBESITY AND FOOD CONSUMPTION

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February 2004

Abstract

The prevalence of obesity in Canada has progressed so rapidly over the years that it causes overwhelming public concerns. Diet is one of the factors contributing to obesity as excessive calorie intake leads to weight gain. In this report, we look at the Canadian overweight and obesity trends, associated health risks, and trends in nutrient intake from food consumption. Furthermore, we provide marketing strategies and recommendations for Alberta food producers and processors in meeting consumer demand for healthy and nutritious products.

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Canadian Consumer Trends in Obesity and Food Consumption

Introduction

Overweight and obesity have become a global epidemic, affecting about a billion people worldwide. In Canada, more than 6 million people between 20 to 64 years old are overweight and another 2.8 million are obese. Together they represent 47% of the Canadian adult population. The prevalence in children is even more alarming. In 1998/99, the overweight and obesity rates among children ages 2 to 11 years old were 37% and 18%, respectively, compared to 35% and 15% for adults. According to the Heart and Stroke Foundation of Canada (2003), "the increasing number of overweight and obese Canadians now poses one of the greatest threats ever to public health in this country".

Overweight and obesity are caused by energy imbalance. There are many contributing factors - diet is one of them as excessive calorie intake leads to weight gains. In this report, we will look at the Canadian overweight and obesity trends, associated health risks, and trends in nutrient intake from food consumption. Furthermore, we will provide marketing strategies and recommendations for Alberta food producers and processors in meeting consumer demand for healthy and nutritious products.

Canadian Obesity Trends

By the World Health Organization's definition, adults are considered overweight if their body mass index (BMI) is 25-29.9, and obese if the BMI is 30 or more. BMI is a measure of a person's body weight-to-height ratio. It's calculated dividing a person's body weight in kilograms by the square of his or her height in meters (kg/m^2).

The prevalence of obesity in Canada has progressed rapidly over the years. The proportion of Canadian adults who are obese almost tripled in the last 15 years from 5.6% in 1985 to 14.9% by 2000/01, as shown in Table 1. The case is even worse for males – their obesity rate is not only higher, but has also risen faster than their female counterpart.

Table 1. Percentage of Canadians adults (20-64 years old) who are overweight or obese, 1985–2000/01

	1985	1990	1994/95	1996/97	1998/99	2000/01
Obese - BMI≥ 30.0	5.6	9.2	13.2	12.2	14.5	14.9
Men			13.3	13.1	15.1	16.0
Women			13.1	11.3	13.9	13.9
Overweight – BMI (25.0-29.9)			34.9	34.4	35.1	32.5
Men			44.5	44.5	45.5	39.6
Women			25.0	24.0	24.8	25.3

Data sources: Canadian Community Health Survey, Statistics Canada; National Population Health Survey; The Canadian Obesity Epidemic, 1985-1998. (Katzmarzyk, 2002)

Overweight and obesity rates vary with demographic characteristics such as age, income, education, and geography. As demonstrated in Figure 1, in 2000/01, B.C. has the lowest percentages, followed by Quebec. With 15.9% obesity and 33.2% overweight Alberta is above the national average. The four Atlantic Provinces have the highest proportions of overweight/ obese (BMI ≥25) population.

Figure 2 suggests that more people, both men and women, tend to become overweight or obese, as they get older, except that a slight decline of obesity is observed among the 55-64 years old male group.

Income is also a factor but the patterns are different between male and female groups. Women with higher household income are less likely to be overweight or obese (BMI $\geq$25) but it's the opposite for men, as shown in Figure 3, whose overweight/obesity rate increases with income.

Overweight/obesity rate also varies with level of education, especially among women, as displayed in Figure 4. Those with a higher degree of education seem to be less likely to be overweight or obese. On the other hand, the pattern is less obvious for men – the overweight /obesity rate is equally distributed among groups of different education, except those with some post-secondary education, who are less likely to be overweight or obese.

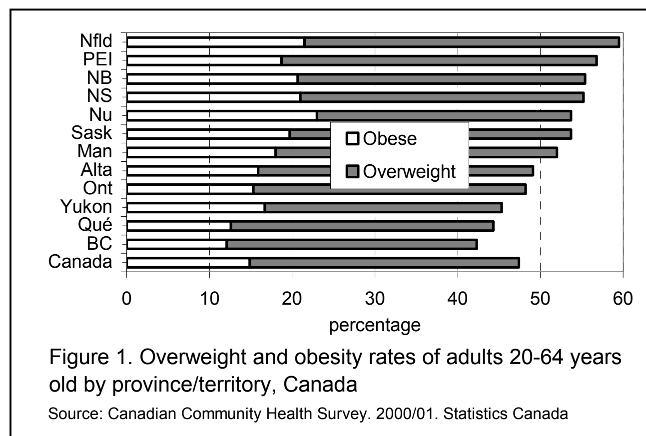

Figure 1. Overweight and obesity rates of adults 20-64 years old by province/territory, Canada

Source: Canadian Community Health Survey. 2000/01. Statistics Canada

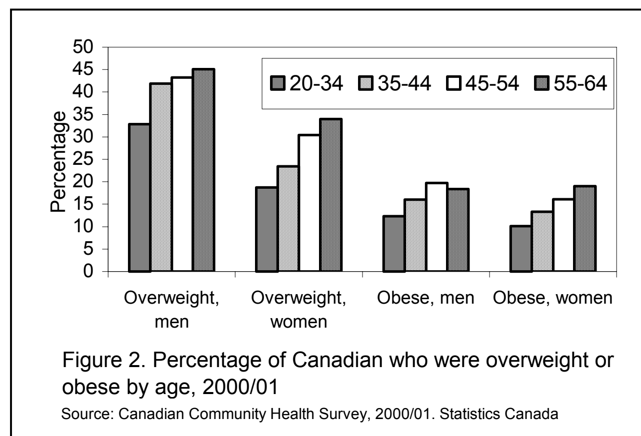

Figure 2. Percentage of Canadian who were overweight or obese by age, 2000/01

Source: Canadian Community Health Survey, 2000/01. Statistics Canada

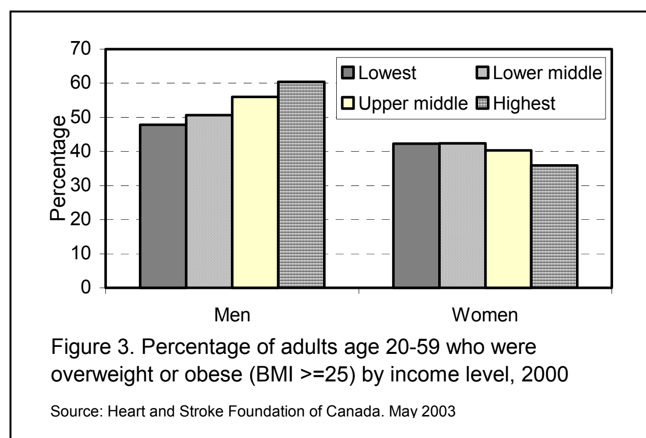

Figure 3. Percentage of adults age 20-59 who were overweight or obese (BMI >=25) by income level, 2000

Source: Heart and Stroke Foundation of Canada. May 2003

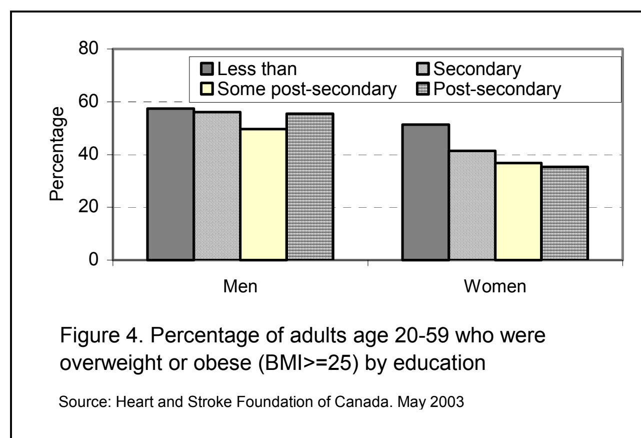

Figure 4. Percentage of adults age 20-59 who were overweight or obese (BMI>=25) by education

Source: Heart and Stroke Foundation of Canada. May 2003

Obesity and Associated Health Risks

The prevalence of obesity and the associated health risks have increasingly concerned the public. Media coverage on obesity has been escalating in the last few years. Tracking by the International Food Information Council (IFIC) suggests that the number of international wire reports and print articles in English language on this specific issue increased from 395 during the period of Oct. 1999-Sept. 2000 to 4,767 for the same period in 2002/03. Some research has been

done to quantify the economic impact of obesity. It is estimated that direct costs of medical treatments attributing to obesity were $1.8 billion in Canada in 1997 and US$75 billion in the US each year. (Birmingham, 1999; Finkelstein, 2004).

Cardiovascular diseases (CVDs), diabetes, arthritis, sleep and breathing disorders, depression, and cancer are some of the diseases identified to have close associations with obesity (Food and Drug Law Institute, n.d.). Statistics Canada's Health Report (1999) also confirms that Canadians who are obese or overweight are more likely to have certain diseases, such as those listed in Table 2.

Table 2. Odd ratios for selected health characteristics, overweight and obese population aged 20 to 64 years, compared with normal weight population aged 20 to 64 years, 1996/1997

	Overweight	Obese
Diabetes	1.73*	3.97*
High blood pressure	1.86*	3.26*
Arthritis	1.30*	2.01*
Thyroid disorders	1.39*	1.75*
Asthma	1.21*	1.59*
Heart disease	1.08	1.56*
Back problems	1.13*	1.36*

Source: Health Report, 1999, Statistics Canada.
*Statistically significant at $p<0.05$.

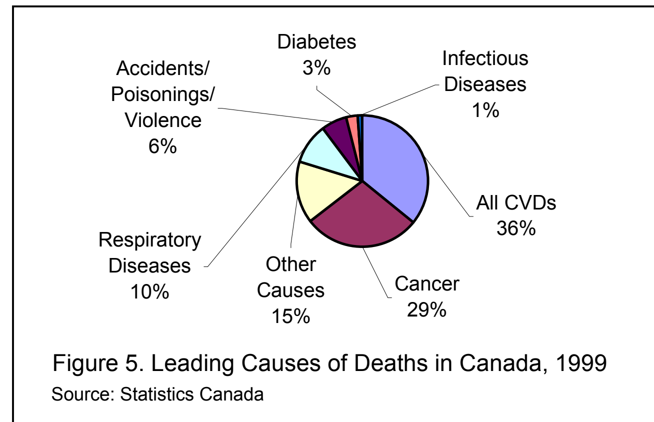

Figure 5. Leading Causes of Deaths in Canada, 1999
Source: Statistics Canada

Canadians' Top Health Concerns

According to a consumer survey by the National Institute of Nutrition (2002), Canadians' top health concerns are heart/circulatory diseases, cancer, nutrition/diet, weight, exercise, and diabetes – most of these are closely associated with diet and nutrition. Statistical figures on the leading causes of death in Canada (Figure 5) confirm that these concerns are not overblown. CVDs are the number one killer, followed by cancer.

CVDs are also the most costly disease in Canada. A number of factors, individually or in combination, are associated with heart diseases such as smoking; diets rich in saturated fat; physical inactivity; stress; a family history of heart disease; and overweight (Heart and Stroke Foundation of Canada, 2003).

According to Canadian Cancer Statistics (2003), an estimated 139,900 new cases of cancer and 67,400 deaths would occur in Canada in 2003. Based on current incidence rates, 38% of women and 41% of men are projected to develop cancer during their lifetimes. There are many known risk factors for cancer. Some risk factors are not modifiable, such as age, gender, and genetic predisposition, but some others are. It is estimated that diet accounts for about 30% of cancers in industrialized countries - the second largest modifiable risk factor after smoking (World Health Organization, 2003).

Canadian Trends in Nutrient Intake from Food Consumption

Health and nutrition are closely related. Consumers are aware of many health benefits and risks that are associated with diet. Health Canada has recognized the relationships between diet and

the risk reduction of some chronic diseases, and is, therefore, allowing specific diet-related health claims to be on the food package label: "*A healthy diet low in sodium and high in potassium - may reduce the risk of high blood pressure*"; "*A healthy diet adequate in calcium and vitamin D, may reduce the risk of osteoporosis*"; "*A healthy diet low in saturated fat and trans fat, may reduce the risk of heart disease*"; "*A healthy diet rich in vegetables and fruit, may reduce the risk of some types of cancer*".

Canadian nutrient intake trends have direct impacts on the state of Canadians' health. According to Statistics Canada's *Food Statistics* (2003), Canadian food consumption and dietary intakes show an upward trend in the last decade. From 1991 to 2002, energy intake from food has increased 18%, with fat consumption increasing the most (22%). Some of the results presented in the section and Table 3 are from Statistics Canada's *Food Statistics*.

Table 3: Canadian nutrient intake from food consumption, per person / per day

	1976	1981	1986	1991	1996	1998	1999	2000	2001	2002	2002/1991
	Per person / per day										Growth rate
Energy (kcal)	2358	2337	2411	2356	2585	2715	2725	2732	2757	2788	18%
Carbohydrate (g)	297	290	309	302	334	339	341	344	349	358	18%
Protein (g)	71.9	71.3	71.8	69.8	73.3	75.5	77.1	76.9	77.1	76.9	10%
Fat - total (g)	87.2	88.1	89.2	88.8	99.6	110.1	109.4	109	108.8	108.6	22%
Monounsaturated	39.9	40.8	41.1	42	48	53.7	52.8	52.5	52.3	52.2	24%
Polyunsaturated	12.8	13.3	14.4	14.7	18.4	21.5	21.4	21.5	21.5	21.5	46%
Saturated fatty acids	28.2	27.8	27.5	26.2	26.7	28.1	28.2	28.1	28.1	27.9	6%
Others	6.3	6.2	6.2	5.9	6.5	6.8	7	6.9	6.9	7	19%
Cholesterol (mg)	297.9	290.2	277.4	258.4	253.4	260.6	266.6	266.4	268.3	265.8	3%
Fibre total dietary (g)	11.4	11.7	12.2	12	13.7	13.7	13.5	13.6	13.6	13.6	13%

Source: Statistics Canada – Cat. No. 21-020-XIE

Calories

Calories (kcal), a measure of the amount of energy from food, come from three major sources: carbohydrate, fat, and protein. In an average Canadian diet, 52% of calories are sourced from carbohydrate, 36% from fat, and 12% from protein. According to Dietitians of Canada's recommendations, however, a balanced diet should have no more than 30% of total energy from fat, and 55% or more from carbohydrate.

In 2002, an average Canadian consumed 2,788 kcal per day, compared to 2,356 kcal in 1991. According to Dietitians of Canada, however, this amount exceeds the recommended daily energy intake for most age and gender groups, as shown in Table 4.

Table 4: Recommended daily energy intake (kcal/day)

Age (years old)	13~15	16~18	19~24	25~49	50~74	75+
Male	2,800	3,200	3,000	2,700	2,300	2,000
Female	2,200	2,100	2,100	1,900	1,800	1,700

Source: Dietitians of Canada website

Carbohydrates

Carbohydrates are an important part of a healthy diet as they are the main source of energy. Foods rich in whole-grain carbohydrates are also good sources of essential vitamins and minerals. Between 1991 and 2002, the carbohydrate intake of an average Canadian increased 18%. Much of the growth is due to increased consumption of pasta, specialty breads, and cereal-based snacks. What this data didn't exhibit is the adverse impact the cereal industry has felt recently due to the popularity of the Atkins diet - a low carb, high fat, high protein, weight management diet - and increased demand for high protein/low carb food products.

A new system for classifying carbohydrates is called the glycemic index (GI), which measures how fast and how much blood sugar rises after eating a food that contains carbohydrates (Harvard School of Public Health, n.d.). High GI foods are those causing quick and strong increases in blood sugar levels (e.g., white bread, candy). On the opposite end of the scale, a low GI food is digested more slowly and therefore causes a lower and more gentle change in blood sugar. Research has linked high GI foods to increased risk of heart disease and diabetes. Low GI foods, on the other hand, have shown to be helpful in managing Type 2 diabetes (Harvard School of Public Health).

Fat

Table 3 suggests that the average Canadian fat intake from the food supply has remained stable since 1998, although it increased 22% compared to 1991. The most significant growth is the consumption of polyunsaturated and monounsaturated fatty acids, rising 46% and 24%, respectively, over the last decade. These two fatty acid categories also account for larger portions of total fat intake compared to a decade ago, as exhibited in Figure 6. On the other hand, the amount of saturated fat intake has remained stable; therefore, its share in total fat intake has declined. The "others" category in Table 3 and Figure 6 provides a conventional estimate of the amount of trans fatty acids an average Canadian consumes daily, which was about 7 grams per day, or 6.4% of total fat intake in 2002.

Oils and fats are the major source of total fat, followed by red meat, poultry, and fish. The changing patterns in fat intake composition are consistent with the shifts of consumer demand for meat, oil, and fat over the decade. In 2002, 56% of total fat consumed was from the oils and fats category, compared to 47% in 1991, due to increased use of salad oil and shortening in deep-frying, commercial baking, and salad dressings. In contrast, the amount of fat from red meat declined from 18% in 1991 to 14% in 2002, due to decreased consumption of beef.

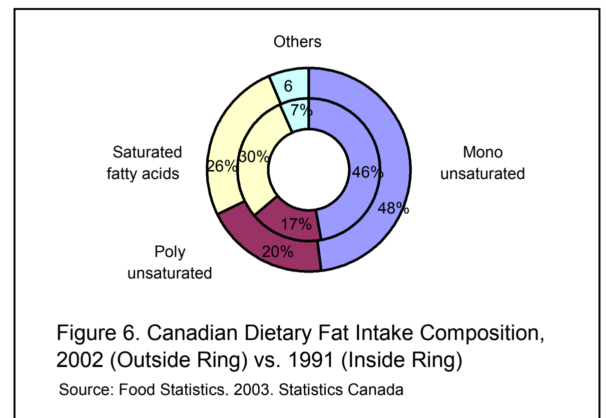

Figure 6. Canadian Dietary Fat Intake Composition, 2002 (Outside Ring) vs. 1991 (Inside Ring)

Source: Food Statistics. 2003. Statistics Canada

According to the Harvard School of Public Health, the total amount of fat in the diet has no real link to disease. What really matters is the type of fat – bad fat that increases the risk of certain diseases and good fat that lowers the risk. Scientific evidence suggests that consumption of trans fatty acids increases the risk of CVD; on the other hand, consumption of omega-3 fatty acids reduces the risk of CVD. The key is to substitute good fats for bad ones.

According to a recent ACNielsen survey (Phil Lempert, 2004), 93% of consumers are aware of the health issues that surround obesity. The percentage of people who are aware of and concerned about the health risks of saturated and trans fatty acids are 88% and 68%, respectively. The new food labelling regulations require the Nutrition Facts panel to specify the amount of trans fatty acids presented in foods[1]. Consumer awareness of trans fatty acids is expected to increase as manufacturers include that information on the labels.

Proteins

Protein consumption of an average Canadian remained relatively stable between 1998 and 2002, although it rose by 10% over the last decade. Meat, including poultry, as the major source of protein, accounts for 33% of total protein. Another 5% has consistently come from fish. Increased consumption of poultry, grain products, and pulses has partially offset the decline in beef.

Calcium, Vitamins, Minerals, and Fibre

On an average level, Canadian's calcium intake has increased steadily over the last decade. More than 70% of the total calcium intake comes from milk and milk products. The upward trend is also due to increased consumption of calcium fortified foods such as juice, milk, and breakfast cereal, etc.

The level of micronutrient intake from food consumption has increased for most vitamins, minerals, and fibres over the last decade. The increased consumption of fruits and vegetables, especially fresh-cut, pre-packed fruits and salads in Canadian diets, has played an important role in this growth.

Market Opportunities for the Food Industry

Obesity, as a societal issue, is a great challenge for consumers, food industry, government, and other organizations. There are many economic, social demographic, and anthropometric characteristics affecting consumers' dietary intake patterns and body weight. These include food prices and prices of other consumer goods; disposable income, age, gender, ethnicity, and education; time available for cooking and food preparation, nutrition knowledge, and the ability to combine foods and other resources to produce a nutritious diet; and the person's weight, height, and physical activity levels, etc. (Variyam, 2003).

More and more consumers are aware of the health benefits of diet and nutrition and willing to make lifestyle changes to reduce the risks. There is an increased demand for better and more nutritious food products. Huge market opportunities and potential exist for food manufacturers, retailers, and services.

Consumer concerns have prompted companies to introduce healthier foods. A good example is Frito-Lay snacks with no trans fatty acids. Many other companies have followed suit to address the obesity issue. Fast food restaurants offer consumers new menus, healthier options, fruits, and salads. Some supermarkets also aggressively promote fruits, vegetables, and healthier products,

[1] For more information on the new nutrition labelling regulations, please visit the Health Canada's website at: http://www.hc-sc.gc.ca/hpfb-dgpsa/onpp-bppn/labelling-etiquetage/index_e.html.

and allocate more shelf space to health and wellness products, one of the fastest growing categories in retail stores. Health and wellness categories that are growing include produce, meats, seafood, meat snacks, and nuts, due to popularity of the low-carb diet.

Consumer preference is influenced by new science and knowledge. Currently, there is a lot of confusion among consumers about nutritional information, headlines, and reports. It is important to educate consumers and promote healthy diets and physical activities.

Marketing Strategies and Recommendations

Drawn from research results of studies and market reports on the issues of obesity and nutrition, we made a list of marketing strategies and recommendation for Alberta's food companies to consider:

Understand the consumer

- Assess current and future trends related to obesity and nutrition.
- Identify health and nutritional concerns across different segments of consumers.
- Assess the impact of those concerns on consumer eating patterns.
- Understand the underlying motivations that drive consumer behaviour and decision-making.

Product development

- Assess how consumer trends will impact your business and products.
- Invest in technological innovation to develop new health and wellness products, or modify current products to replace unhealthy ingredients and improve nutritional content.
- Develop products to meet consumers' needs, target specific consumer segments, and provide healthy, nutritional choices.
- Develop products to qualify for certain health claims allowed by Health Canada, Food and Drug Administration, or other organizations.
- Provide consumers with a wide range of choices in portion size.
- Food manufacturers need to understand that taste is important and many consumers would not give up taste for a healthful diet. Convenience, portability, freshness, variety, and safety are other product characteristics not to be ignored.
- Many consumers perceive healthful foods cost too much. Product pricing needs to take consumers' acceptability into consideration.

Labelling and educating consumers

- Partner with industry groups, governments, health and nutrition groups, and other stakeholders to educate and communicate with consumers. Endorse healthy diets and lifestyles using various promotional channels.
- Provide consumers with nutrition information and health benefits through effective packaging and labelling.

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