

Report from:

THE SIXTH ANNUAL HEALTH AND NUTRITION SYMPOSIUM

THIS IS A REPORT ON A SYMPOSIUM WHICH WAS HELD ON NOVEMBER 26, 2006 IN TORONTO

Canadians are becoming more health-conscious and their interest in nutrition is at an all-time high. In spite of this, several recent nutrition surveys have revealed that a majority of children, teenagers and adults have poor eating habits. For instance, the most recent national nutrition survey indicates that many individuals are not consuming even the minimum number of daily servings recommended for the four food groups. Among these under-consumed food groups, Milk Products is the most under-consumed by Canadian teenagers and adults of all ages.

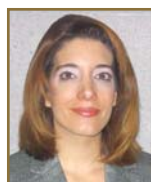
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What's for Dinner? Fresh Approaches for Improving Canadians' Eating Habits



To address this issue, the Sixth Annual Health and Nutrition Symposium: What's for dinner? Fresh Approaches for Improving Canadians' Eating Habits took place in Moncton, Montreal, Toronto and Edmonton on November 27, 28, 29 and 30, 2006. This symposium brought together leading nutrition experts to discuss how Canadians are eating, to examine their knowledge and attitudes toward nutrition and to provide practical information that will help health professionals motivate their patients toward better eating habits.

WHAT ARE CANADIANS EATING?



Maya Villeneuve, RD
Head, Nutrition Survey Section, Nutrition Research Division, Health Canada

Maya Villeneuve presented on the findings of the Canadian Community Health Survey — Nutrition (CCHS 2.2), a 2004 national food consumption and nutrition survey that provides reliable, timely information on the dietary intake and nutritional well-being of Canadians, and their key determinants. The last national nutrition survey was conducted in 1972. The survey informs and guides the programs, policies and activities of federal and provincial governments and local health agencies.

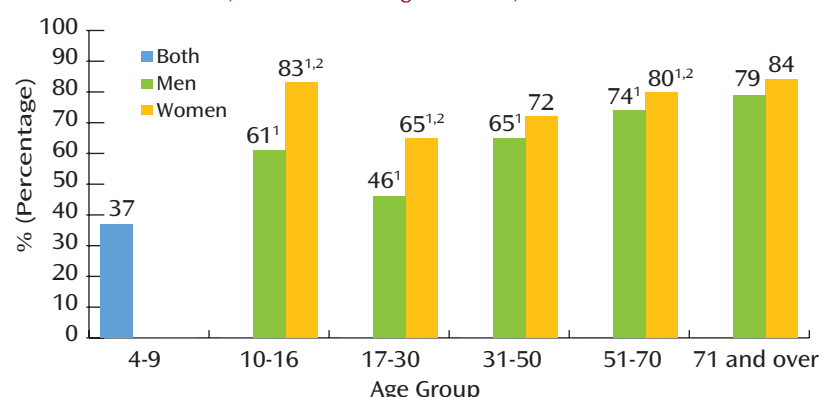
The survey involved thirty-five thousand participants of all ages across 10 provinces. Participants answered questions about food intake, nutritional supplements, health conditions, socio-

economic characteristics, demographic characteristics and self-reported and measured height and weight.

The results were released in two waves.

The first wave came in July 6, 2005. Results showed that nearly one-quarter of Canadian adults, aged 18 or older, are obese. An additional 36.1% are

FIGURE 1 Percentage below recommended minimum number of servings of milk products, by age group and sex, household population aged 4 or older, Canada excluding territories, 2004



1. Significantly different from estimate for previous age group of same sex ($p < 0.05$) **2.** Significantly different from estimate for males in same age group ($p < 0.05$) **Notes:** Based on usual consumption. Age groups are based on Canada's Food Guide to Healthy Eating for People Four Years Old and Over, which recommends a minimum of two servings a day for children aged 4 to 9 and adults aged 17 or older, and three servings a day for 10- to 16-year-olds. Excludes women who were pregnant or breastfeeding. Data source: 2004 Canadian Community Health Survey: Nutrition

overweight. Also, 26% of Canadian children and adolescents aged two to 17 are overweight or obese, and 8% are obese.

The second wave of results was released on July 6, 2006. Canadians obtain on average 29% to 33% of their calories from fat. However, more than one-quarter of adults aged 31 to 50 years obtain more than 35% of their calories from fat. About one-third of adults aged 31 to 70 years had less than the recommended calories from carbohydrates, reflective in part of the impact of the Atkins low carbohydrate diet. Seven out of 10 children aged four

to eight and half of adults do not eat the minimum five servings of Vegetables and Fruit recommended by Canada's Food Guide. Also, more than one-third of children aged four to nine do not meet the minimum recommendation of two servings of Milk Products per day, and by age 30 this number increases to two-thirds (see Figure 1, page 1).

More than 50% of adult women 31 years or older eat less than the minimum number of servings of Grain Products. In all food groups, females are more likely than males to consume less than the recommended number of servings. In both sexes, failure to consume even the

“Other foods” provide as much as 41.5 % of the calories consumed between meals in both children and adults.

minimum recommended number of servings of all food groups increases with age.

“Other Foods” provide 22% of the calories and at least 25% of the fat in the average diet and provide as much as 41.5% of the calories consumed between meals of both children and adults.

In 2007, data on nutrient intakes, supplement use, and a report on food insecurity will be released. For more information on CCHS 2.2, go to www.statcan.ca/english/sdds/5049.htm

There are plans to repeat this survey within a period of eight to 10 years.

WHAT'S ON OUR KIDS' MENU?



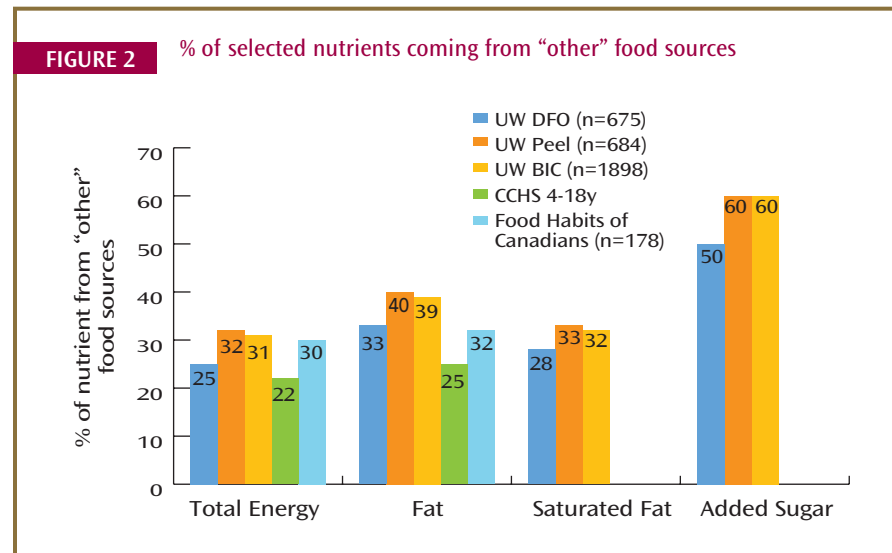
Rhona M. Hanning, PhD, RD
Associate Professor,
Department of Health
Studies and Gerontology,
University of Waterloo

Rhona M. Hanning presented the latest findings on food group and nutrient intakes, frequency of consumption of key foods and food behaviours for children and adolescents.

She used data from recent Canadian studies — Food Habits of Canadians, Children's Lifestyle and School-performance Study (CLASS), Health Behaviour in School-aged Children, the CCHS 2.2 and the UW Web-based Food Behaviour Questionnaire, developed at the University of Waterloo and implemented in conjunction with Alberta's Beyond the Apple a Day Research Group.

Are we concerned? Poor diet can have an immediate impact on health, learning and physical performance, and can lead to unhealthy body weight, the appearance of chronic disease risk factors at younger ages than previously seen, increased prevalence of overweight and obesity and disordered eating patterns, especially in adolescent girls.

In terms of food group and nutrient intakes, all available research on the food behaviours of Canadian children and adolescents points to similar areas of concern. On average, intakes from the four food groups of *Canada's Food Guide to Healthy Eating* do not, or only barely, satisfy minimum recommendations. This



is especially true for intakes of Vegetables & Fruit and girls' intake of Milk Products. This means that average intakes of fibre and key nutrients such as folate, calcium and vitamin A are suboptimal.

The low intake of both milk products and calcium during the bone-building years is worrisome. The median intake of vegetables and fruit is less than three servings. School-aged children who consume less than five servings daily were more likely to be overweight or obese.

Another area of concern is the intake of “other foods” which provides school-aged children and adolescents with as much as one-third of the calories, fat and saturated fat and more than 50% of the added sugar in their diets, depending on the survey consulted (see Figure 2). Included in this group are sweetened

beverages, nutrient-poor, calorie-dense, high-fat snack foods and candy. The higher intake of sweetened beverages, because of its association with increased percentage of body fat and likelihood of obesity, is a real concern.

Hanning pointed out that as children go through the transition into adolescence, food behaviours shift, and not for the better.

More girls in particular are trying to lose weight. Individuals who are dieting tend to eat less of all foods, both healthy and unhealthy foods, which means they are not meeting recommended nutrient intakes.

Studies also show that many adolescents are skipping breakfast, a key daily meal. Those that did report to be daily consumers of breakfast were more likely to be male, nonsmokers who were

not eating less to lose weight and who were infrequent consumers of cola. Students who do not eat breakfast are more likely to be overweight. Healthy behaviours, like unhealthy behaviours, tend to clutter together.

CCHS 2.2 (2004) revealed that 27.4% of the calories of four- to 18-year-olds came from snacking. BMI was significantly greater and energy intake was lower in Ontario adolescent boys having less than three eating occasions per day compared to four or more than six eating occasions per day. Yet, other studies found that snacking may be a positive food behaviour, as long as healthy selections are made.

With the independence and busy lives of adolescents, there is an increase in the frequency of foods purchased and consumed away from home, which are often unhealthy choices such as fast food and processed products from vending machines, and there is a decline in the frequency of consumption of healthy, homemade family dinners.

Many children and even more adolescents have suboptimal eating behaviours. They often skip meals, eat too few vegetables, fruit and milk products and eat too many nutrient-poor “other foods,” leading to inadequate intakes of many key nutrients. In general, girls, especially in adolescence, have a lower intake of all four food groups. In terms of healthy eating, school-aged children and adolescents get a C grade. The bottom line: Kids need help to make healthier food choices.

WHAT ON EARTH ARE WE THINKING? CAPTURING CONSUMER INSIGHTS ON FOOD AND NUTRITION



Francy Pillo-Blocka, RD
President and CEO,
Canadian Council of Food
and Nutrition

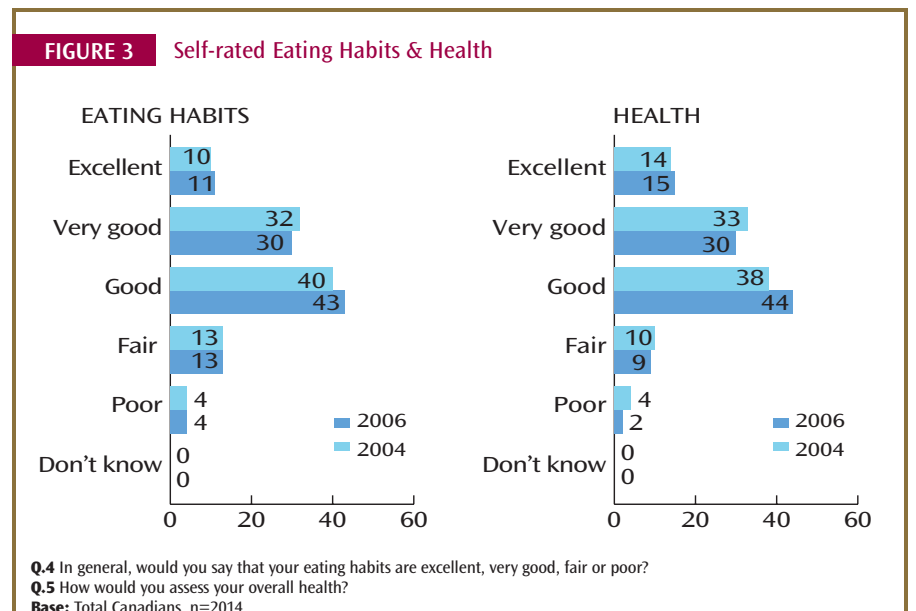
Francy Pillo-Blocka addressed nutrition attitudes and knowledge among contemporary Canadians, as tracked by the sixth Tracking Nutrition Trends (TNT) survey, a national sample, representative of the population 18 years and older based on age, gender and region.

TNT VI (2006) maintains the original 1989 survey's focus on dietary fat and fibre as core tracking trends (because they are still the key consumer concerns), with an expanded focus to capture recent

events and concerns, such as mandatory nutrition labelling, obesity, glycemic index and the mainstreaming of the health and functional foods market.

Pillo-Blocka's presentation discussed the more interesting findings of this survey, including the gap that exists between self-perception and actual health status among Canadians.

In tracking Canadians' attitudes about food and nutrition, almost nine out of 10 people self-rated their knowledge of nutrition as very or somewhat knowledgeable (this result is consistent with the previous three surveys). This high self-rated knowledge is higher in older, better-educated and female subgroups, and in people reporting very good or excellent eating habits. In terms



of food safety concerns, there was no single dominant issue.

In terms of public understanding of nutrition, there is still much room for improvement. Significant proportions of consumers don't know the sources of fat and can't understand the differences between the different types of fat or *trans* fats. Despite continued education by dietitians, consumers still have failed to grasp even the simplest messages about butter and margarine. Understanding of new topics such as the glycemic index and omega-3 fatty acids is generally quite good, possibly reflective of the media attention.

When queried about their sources of nutrition information, consumers rated the less-reliable sources — magazines, newspapers and books (76%) and friends, relatives and colleagues (66%) — as second and third after food product labels (77%). Family physicians or other health

professionals ranked sixth at 51%, the Internet was eighth at 46% and dietitians were last at 23%. Franci Pillo-Blocka pointed out that consumers consistently rated dietitians as #1 sources of credible nutrition information, even though the question was not asked in 2006.

Participants were asked whether they remembered claims or statements made about nutritional and health benefits of foods on the packaging. Two-thirds said no. Of those who did recall, almost four out of 10 mentioned a statement or claim related to fat.

The survey also examined factors affecting food choices. When self-rating eating habits and health, most Canadians perceive their eating habits and health as good, very good or excellent (see Figure 3, page 2).

Taste, nutrition, cost and convenience are the top drivers of food choice, although the importance of these factors

varies by demographic group. Nutrition is more important to people with very good or excellent self-rated eating habits, women and older Canadians. Cost and convenience is more important to less-educated and lower household income groups.

What makes a food “a healthy food?” The top responses were the following: if it contains “good” nutrients (30%) or is lower in “negative” nutrients (21%), if the food is fresh (21%), a vegetable (16%) or all-natural (12%).

The top health-related influences on food choices include maintaining good health, improving energy or stamina and weight management/body image.

The influence of nutrient content on food choice is of importance to people who value nutrition, with fibre, protein, vitamins, total fat and saturated fat ranking at the top of the list. Canadians are increasingly considering the *trans* fatty

acid content of their food.

Finally, when asked if they made changes to improve eating habits over the past year, 62% responded yes, with one-third claiming to be eating more vegetables and fruit. Less than 20% of consumers indicated they were trying to eat less fat, sugar or calories or more fibre or whole grain. It appears consumers are not certain how to translate nutrition knowledge into food choices.

For her closing remarks, Pillo-Blocka reminded the audience that it remains important to track consumer knowledge, attitudes and behaviours on food and nutrition, and that there are knowledge gaps on the part of consumers. There is a vast opportunity to aid consumer learning to bridge these knowledge gaps. An intersectoral approach is key to building strategies to improve consumers' understanding.

BIOAVAILABILITY: WHAT THE “NUTRITION FACTS” PANEL DOESN'T REVEAL



Karen Rafferty, RD, LMNT
Senior Research
Dietitian, Osteoporosis
Research Center,
Creighton University
Medical Center

Karen Rafferty discussed the impact of food choices on mineral bioavailability.

Nutrition and food consumption surveys identify nutrients that are being under-consumed within a population and show the need to establish public policy that guides food recommendations for food consumption and fortification.

Calcium and potassium have been identified as two major shortfall nutrients in the diet of Canadians and Americans, and these two nutrients were the focus of this presentation. Calcium shortfall is a major public health concern because it is critically important not only to maintain optimal bone health but also for risk reduction of osteoporosis, hypertension, kidney stones, colon cancer, insulin resistance syndrome, obesity, etc.

Low intakes suggest that these nutrients are scarce in the food supply, but this is not the reality. There are rich sources of both nutrients abundantly available in the food supply. Dairy foods are the primary dietary source of calcium, representing about 50% to 75% of the calcium in Canadian and U.S. diets.

The #1 source of potassium in the diets of Americans is milk, (not bananas) both because of its content and its frequency of consumption. All food sources of potassium are equally well-absorbed. Milk products are a marker for dietary nutritional adequacy, reflective of the healthy eating patterns of milk drinkers.

Fortification of foods has historically been justified to protect against widespread nutritional deficiencies and to replace nutrients lost in the food processing. For example, milk is fortified with vitamin D₃, a natural animal source, to prevent rickets in children. In contrast, most soy beverages are fortified with vitamin D₂, a synthetic form, which has been found to be 70% less effective in raising and maintaining blood vitamin D levels. Currently, there may be as many as 200 calcium-fortified products at one

time in the American grocery store, although different products come and go. Seven out of 10 consumers consider calcium as one of the most important in fortified beverages, necessary for maintaining a healthy lifestyle.

Data from Health Canada indicate consumers do not currently make attempts to purchase fortified foods. They would like a choice of unfortified foods, including those that are already healthy but they don't want manufacturers to abuse fortification as a marketing tool.

Unfortunately, the mere addition of a nutrient to food does not guarantee equivalent nutrient behaviour. Just as the amount of calcium absorbed differs in different foods, it is likely that the calcium absorption from calcium-fortified foods or beverages differs as well. Calcium absorption from milk products is 30% or more, compared to 5% for spinach.

Bioavailability refers to the amount or fraction of an ingested substance that is absorbed and gets into the circulation. Dr. Rafferty's group investigated the impact of chemical and physical properties on bioavailability of different calcium supplements. Despite huge differences in solubility, this had little impact on intestinal absorption. Whether the calcium supplement was calcium citrate or calcium carbonate also had little effect. The calcium in soy beverage, fortified with tricalcium phosphate, was found to be absorbed at only 75% that of milk.

Next they investigated the matrix characteristics of the fortificant used in soy and rice beverages fortified with calcium (see Figure 4). When the carton was empty, they noticed a calcium residue that had the consistency of toothpaste on the bottom. Seven out of 11 beverages had between one-third and two-thirds of the calcium in the residue. Vigorous shaking of the carton before pouring a glass of beverage reduced only partly the amount of the calcium residue. In contrast to milk calcium, which exhibits a 100% suspension, most of the calcium in soy and rice beverages failed to remain suspended. The matrix of the fortificant had the greatest impact on calcium bioavailability.

Because of the uneven bioavailability

	Labelled Calcium (mg)	Residue Calcium (mg)	% of Calcium in Residue
Soy Beverages 1-8			
Rice Beverages 9-11			
1	200	43	22
2	500	206	41
3	200	133	67
4	300	105	35
5	300	124	41
6	350	130	37
7	300	4	1
8	300	162	54
9	300	48	16
10	300	15	5
11	300	160	53

“Dairy calcium is always uniform and reliable.”

of the calcium, fortified beverages fail to deliver the amount of calcium stated on the label consistently to the consumer. In addition, 85% of shoppers refer to the Nutrition Facts panel when choosing which foods to buy, and 77% of Canadians report that they get their nutrition information from product labels. This poses a problem because the Nutrition Facts panel only identifies nutrient content, and consumers presume bioavailability equivalence.

In conclusion, current fortification systems do not produce uniform results, and the food matrix/pharmaceutical

formulation has the greatest effect on bioavailability of calcium when added to beverages. Consumer confusion may arise when the level of fortification is chosen specifically to match that of milk, product marketing stresses comparability to milk and nutrition labelling leads consumers to assume bioequivalence. In short, bioavailability should be measured and disclosed to consumers so they can make informed choices.

Consumers need clear, credible and consistent messaging from dietitians: as a food source of bioavailable calcium and potassium, dairy is a reliable choice.

HEALTHY EATING? WHAT'S STOPPING US?



Rhonda Bell, PhD
Associate Professor,
Human Nutrition,
Department of
Agricultural, Food and
Nutritional Science,
University of Alberta

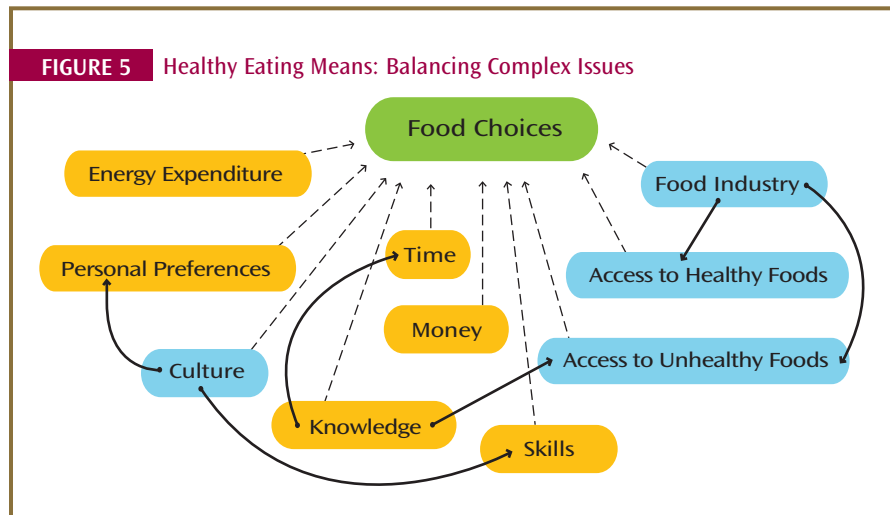
This presentation was developed in collaboration with Réjanne Gougeon, PhD, McGill University.

Rhonda Bell reported on contemporary challenges and barriers to healthy eating, and what can be done to overcome them.

Consumers agree that “healthy eating” is based on balance, variety and moderation, and choosing foods that are mainly vegetables and fruits, lean meats, low in levels of fat, salt and sugar and natural (fresh, unprocessed, homemade). Despite this awareness, there are individual and collective factors that create challenges and barriers to healthy eating.

The first challenge: Choosing foods is a complex behaviour. There are many, many factors that influence our food choices — how we work, how we spend our leisure time, how communities are built and the ease and accessibility of food. The importance of each varies among individuals — their ethnic background or culture, personal preferences, skills, knowledge, access to healthy or unhealthy foods and the impact of food marketing (see Figure 5). Practical barriers are influential, such as job, income, time for shopping, cooking and eating, lifestyle choices and commitments to work, family or others.

Knowledge or lack of it is itself a barrier. Where do people get their knowledge? Is it reliable? Which foods contain which nutrients? What are the relationships between different nutrients and health and disease? We are asking people to make complex calculations that require both literary and mathematical



skills to interpret the information on the nutrition label in order to make “informed food choices.” Probably not even three people in 10 are able to do so. Please note there are over 40,000 food items available in the marketplace. Understanding that a food choice is not a black and white issue is a first step.

In addition, there are unconscious barriers to healthy eating. For instance, mindless eating is when we are not aware of what we are eating. People eat to console themselves or due to peer pressure in a social situation. New research suggests people with disturbed sleep have a less healthy diet and increased body weight.

The second challenge: Factors affecting food choices change with time and differ between age groups. What appeals to teenagers won’t appeal to adults and vice versa. How is it possible for people to change if they perceive their eating habits to be good, very good or excellent? Only 17% of Canadian adults rated their eating habits as fair or poor. For teenagers, it’s “uncool” to eat a healthy diet as that’s what old people do. Unhealthy foods are readily available and healthy foods in schools are unappealing. People with a low socioeconomic status have less access

to healthy foods. It’s cheaper to buy “energy.” It’s much more costly to buy “nutrients.”

The third challenge: Healthy eating has become confused with weight loss and the messages have become divorced from diet quality. Eat vegetables and fruit because they are calorie-poor rather than nutrient-dense. Healthy eating should be an end in itself, rather than a means to an end. We eat a healthy diet because of the nutrients it contains. The focus on weight loss or lack of weight gain sets up expectations of physical changes that will result from “depriving” oneself of favourite foods and equating it with “a healthy diet.” It is important that physicians reinforce the message that healthy eating is about diet quality, not weight loss.

The final challenge: Factors supporting food availability may not promote healthy foods. Food policies, particularly in the United States, don’t necessarily support healthy eating. The food industry is profit-driven. Buyers beware. What you eat is a personal choice.

How to encourage healthy eating? Bell recommended signposting and signal systems to show food composition and method of preparation. She discussed daily 5-2-1-0 programs for kids (5 fruits and

“Eating a healthy diet

— it’s not rocket science

...it’s harder.”

— Dr. Finegood, Scientific Director, Institute of Nutrition, Metabolism and Diabetes

vegetables, 2 hours TV, 1 hour physical activity, 0 soda pop), and 0-5-30 programs for adults (0 smoking, 5 fruits and vegetables, 30 minutes physical activity).

To get people moving, Dr. Bell suggested the First Step Program developed for people with type 2 diabetes. Initially participants were given pedometers and encouraged to increase the number of steps per day. The activity was simple and self-motivating and the goals were achievable. Next, participants were told to walk faster for a specific period of time using a stopwatch. This resulted in progressive improvement in cardiorespiratory responses of all participants.

Components of successful lifestyle programs include simple activities, such as walking, that provide immediate positive reinforcement and group meetings to overcome barriers to healthy eating. Any strategy presented in isolation doesn’t work. Suggested new norms for healthy eating include no pop machines in schools, decreasing *trans* fat, eating more fruit and vegetables and making smaller portion sizes. Remember, healthy eating begins at home. As health professionals we also need to recognize the urgency to address the junk food epidemic.

REAL ADVICE FOR THE REAL WORLD



Dayle Hayes, MS, RD
President, Nutrition for
the Future, Inc.

Dayle Hayes delivered a dynamic and thought-provoking presentation that focused on the art and craft of creating nutrition messages that can work in the “real world.”

She pinpointed the key findings of the International Food Information Council (IFIC) Foundation, a nonprofit organization that recognized that it is time to initiate a new nutrition conversation with consumers; the emphasis is on the term *conversation*, talking *with* consumers rather than *at* them to find out what they are thinking about nutrition and why.

Despite interest in nutrition and health, consumers are overwhelmed by a bombardment of information, confused

Six simple strategies to help dietitians create how-to tips that have consumer appeal:

Be Positive

Daily donut for breakfast? Swap for a bowl of whole grain cereal with low-fat milk at least three times a week.

Talk Food and Fun

Try fun snacks such as fresh fruit dipped in your favourite fruit yogurt or yogurt parfait.

Keep Tips Short and Simple

Drink milk with meals and water with snacks.

Create Personalized Tips for Individual Consumers

Love the flavour of regular cheddar

cheese? Balance it with other reduced-fat dairy products, like fat-free milk, cottage cheese and sour cream.

Make Tips Specific and Manageable

Are you a chocoholic? Once or twice a week, trade your favourite candy for chocolate milk or chocolate pudding made with fat-free milk.

Provide the Payoff

Enjoy fruits and veggies with every meal. By adding a serving or two to your plate, you’ll eat less fat, and get more nutrients for looking good and feeling better.

“Don’t tell us what to do. Tell us HOW to do it!!”

about who and what to believe and often fed up with contradictory advice on nutrition and health.

While dietitians and other health professionals have the nutrition knowledge and scientific background to impart this information, the nutrition messages often get lost in translation.

Consumers need “how-to” information and advice that makes them *stop, listen and want* to change — advice that is achievable. Change is a gradual process. One change at a time, every three weeks — that’s enough for the change to become a habit.

The following four criteria for communicating nutrition information are essential. Dairy foods are used as examples but the information applies to any food. The information should be:

- science-based,
- simple,
- practical, and
- consistent.

These educational supplements are designed to provide Canadian physicians with the latest in clinical thinking and therapeutic practice. Before prescribing any mentioned medication, please refer to the appropriate product monograph. The information and opinions contained herein do not necessarily reflect those of the sponsor.

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