CARDIOVASCULAR REPORTER

Hamilton Health
Science Corporation

THE POWER OF FOOD

Healthy dietary practices are based on one's overall pattern of food intake over an extended period of time, and not on the intake of a single food item or meal.

Obesity is becoming an increasing problem among our youth. Health-care workers need to be more active and advocate appropriate steps to avoid this increase. The American Heart Association dietary guideline continues to stress a limited intake of dietary saturated fats (< 10% of energy intake per day) and cholesterol (< 300 mg per day). There is increasing evidence of the cardiovascular benefits of fish, particularly fatty fish, such as salmon, mackerel, and sardines. We should be consuming at least two servings of fish per week, and at least five servings of fruits and vegetables per day. Salt intake should be limited to 2 g a day, and alcohol consumption to less than two drinks daily for men and less than one for women. Fibre content should be increased by the consumption of more grain products (six or more servings a day). As much as possible, an ideal body weight should be maintained. This weight can be achieved by avoiding excesses in total caloric intake and by regular physical activity.

Approximately 50% of North Americans are overweight, with various aspects of their health being affected. We are consuming less calories compared to our great-grandparents, however, our activity level has gone down dramatically.

Many think that low fat equals low calories—this is not the case. For instance, two tablespoons of peanut butter contains 191 calories; the same amount of the low-fat version contains 187 calories. One fig cookie, even though low in fat, has 51 calories. We are consuming increasing quantities of simple sugars. A side effect of this increase can be the development of metabolic syndrome, or syndrome X, an illness associated

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with central obesity, high triglycerides, low high-density lipoprotein cholesterol (HDL-C), and the development of insulin resistance. The number 1 strategy against it is weight reduction, followed by increasing physical activity. Simple sugars and fructose can cause triglycerides to go up and HDL-C to fall. Unsaturated fats may be better than simple carbohydrates.

Types of diets

Low-Fat Diets: Fat restriction can be associated with weight loss, but people need to be more concerned with caloric intake. In some individuals, one can see a rise in triglycerides and an increase in small, dense low-density lipoprotein cholesterol (LDL-C), with falling HDL-C. The studies on this effect are relatively small and the clinical significance unclear. Limiting fat is certainly something that needs to be stressed to many patients, but more importantly, they must be advised to limit trans fatty acids, which are found in commercially-baked goods. However, the major focus should be a decrease in saturated fats.

A regular kids' meal at a fast-food restaurant contains about 625 calories. Going to super-size portions adds 1,800 calories or 84 g of fat.

High-Fat Diets: The Mediterranean diet is a high-fat diet associated with a greater intake of unsaturated fats. However, it is a diet poor in saturated and trans fatty acids, yet, very rich in fish, fruits, and vegetables.

High-fat diets, with more than 30% of calories coming from fat, can be sustained, provided people are consuming mono-unsaturated and polyunsaturated fats. Five servings of nuts per week is associated with a reduction in vascular disease. Furthermore, it is important to pay attention to total caloric intake.

The so-called Atkins diet, which is high in harmful fats, such as bacon and eggs, and low in fruits, vegetables, and fibre, doesn't make any sense. It may result in weight reduction over the short term, but the foods included in the diet are rich in saturated fats and cholesterol, both of which promote atherosclerosis.

High-Protein Diets: Some diets, such as the Zone diet, advocate high-protein consumption, with proteins making up > 20% of caloric intake at the expense of carbohydrates. Unfortunately, there are no long-term benefits of this diet and no positive data suggesting that protein intake decreases appetite.

Vitamins: Studies with vitamin supplements, such as Vitamin E and beta carotene, have been negative. Whether or not we should supplement our diet with B_6, B_{12}, and folic acid to lower homocysteine levels is unknown. What is certain is that a balanced diet and the maintenance of an ideal weight must be advocated. It is recommended to consume more fruits, vegetables, and natural grains rich in potassium and folic acid.

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Eating habits of children

A regular children's meal at a fast-food restaurant contains approximately 625 calories. Going to super-size portions adds 1,800 calories or 84 grams of fat.

Childhood obesity is becoming an increasingly prevelant problem and Type 2 diabetes has now been seen more frequently in adolescents.

Eating habits are set early in life and we know from a series of autopsy studies, such as P DAY, that young children are developing atherosclerosis more frequently.[1] We need to consider fat restriction starting at age two. In fact, a recent randomised, controlled trial from Finland, demonstrated that fat restriction, between the age of six months and one year, leads to normal growth and less childhood obesity.[2]

And every little bit helps. Another trial, among the Hispanic population in the Northeastern U.S., demonstrated that in switching from 3.25% milk to 1% milk, children and adults don't sacrifice taste, but the fat content goes down significantly.[3]

Also, it is a lesser known fact that women who are overweight have decreased fertility, higher incidence of preeclampsia, fetal abnormalities, and are more likely to have a C-section. This group also has a high incidence of Type 2 diabetes.

Sugar is the number 1 food additive, with the average adult consuming 152 pounds per year or 47 teaspoons a day of refined sugar!

Facts you'd like to ignore

Unfortunately, the most common vegetable consumed in North America is french fries.[4] Sugar is the number one food additive, with the average adult consuming 152 pounds per year of refined sugar—that is 47 teaspoons a day.[4] People want to take pills and magic powders to improve their health, but the real solution is much simpler. A change in lifestyle habits involving diet and exercise would go a long way in improving health.

New findings

In 1995, a meta-analysis of 38 clinical trials demonstrated that soy protein could lower LDL-C.[5] Increasing fibre in a diet is a crucial and important step. In addition, certain soluble fibres, such as oat products, psyllium, pectin, and guar gum, reduce LDL-C, particularly in hypercholesterolemic individuals.

A more recent meta-analysis concluded that for every gram increase in soluble fibre from these sources, LDL-C would be expected to decrease.[6] There are new plant steroids, such as stannols and sterols, that are added to margarine; two servings daily can also lower LDL-C. There is concern that these products may decrease plasma, beta carotene and other antioxidants, which are still within the normal ranges, but this has not been confirmed. What we do know is that these plant steroids lower LDL-C; however, no long-term studies have been performed to examine other major side effects.

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A growing body of evidence indicates that foods rich in Omega-3 polyunsaturated fatty acids, specifically eicosapentaenoic acid and dehydroascorbic acid, confer cardioprotective effects beyond those that can be ascribed to improvements in blood lipoprotein profiles. The predominant benefits include a reduction in sudden death, decreased risk of arrhythmia, lower plasma triglyceride levels, and a reduced blood-clotting tendency. Food sources of Omega-3 fatty acids include fish, especially fatty fish, such as salmon, as well as plant sources, such as flaxseed and flaxseed oil, canola oil, soybean oil, and nuts. At least two servings of fish per week are recommended to confer cardioprotective effects.

Foods rich in Omega-3 polyunsaturated fatty acids may reduce sudden death, decrease the risk of arrhythmia, lower plasma triglyceride levels, and reduce blood-clotting tendencies.

Physician's Perspective

Over the last several decades, the average weight of North Americans has gone up dramatically. This jump could be genetically influenced, but the gene pool hasn't really changed. Environmental factors must play a strong role. We need to become more active and pay better attention to nutrition—the foundation of health.

Weight is a major consideration. On a daily basis, we should be eating more than five servings of fruits and vegetables, and more than six servings of grain products. We need to consume less saturated fats and trans fatty acids; however, fish fats seem to have a beneficial effect, as soy protein can lower cholesterol.

As we watch what we eat, we should also keep ourselves active. Simple exercises can have tremendously positive effects. Biking for one hour burns off 120 calories, walking 180 calories, and running 700 calories.

A healthier diet coupled with regular exercise can enhance the quality of life.

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