

Case Study Title: Nutrition Is Not A Fad

Article Information: Please provide the information requested below for the 4-5 USA TODAY articles (from the printed newspaper) you've selected which were published between July 1, 2004 and March 1, 2005, focusing on a news topics relating to the Phi Theta Kappa Honors Study Topic, *Popular Culture: Shaping and Reflecting Who We Are*.

U.S. diet guide stresses exercise
Nanci Hellmich
USA TODAY January 13, 2005
News
USA TODAY p. 1A

Plant foods to the rescue
Liz Szabo
USA TODAY August 11, 2004
Life
USA TODAY p. 1D

How to downsize the student body
Nanci Hellmich
USA TODAY November 16, 2004
Life
USA TODAY p. 10D

The dairy diet debate still churns
Nanci Hellmich
USA TODAY January 19, 2005
Life
USA TODAY p. 7D

More evidence fatty acid protects against Alzheimer's
Kathleen Fackelmann
USA TODAY September 2, 2004
Life
USA TODAY p. 8D

Summary Statement: Toward the end of the 20th century, pop culture used humor to obscure and misrepresent the severity of diet-related health problems. Comedy TV shows and movies like *Big Momma's House* and *The Nutty Professor* depicted obesity as entertainment. And, the misunderstanding that a sugar-laden diet causes diabetes was depicted in the *Simpson's* TV show. Recent reports in *USA Today* demonstrate the importance of diet on human health.

Like all living organisms, the human body needs energy to function. However, unlike machines, living organisms also need energy when resting. For this reason, energy needs to be supplied on a regular basis. The kilocalorie has been used to define a human diet since the 1890s when Wilber Atwater discovered that the energy in food could be measured in calories. A focus on energy intake and expenditure is fundamental.

In addition to energy, the numbers of specific nutrients that must be present simultaneously in the body and in the proper ratios is phenomenal. Generally all foods were considered equally beneficial until 1747 when James Lind discovered that a nutrient (vitamin C) in citrus fruits prevented scurvy. In 1912, Cashmir Funk named these special nutritional parts of food “vitamines” (*vita* meaning life; *amine* for containing ammonia).

In 1916, the U.S. Department of Agriculture (USDA) formalized dietary guidelines with five food groups: milk/meat, cereals, vegetables/fruits, fat, and sugar. In the 1950s, this was simplified to Four Basic Food Groups: milk, fruit/vegetable, grain, and meat.

During the 20th century, diets were transformed by refrigeration, improved transportation, food preservation advancements, and farming methods that increased yield. Consequently, foods are available more regularly and at competitive prices. After World War II, increased advertising, particularly on television, and the growth of women in the workforce, increased consumption of prepared and “fast” foods.

The word “diet” originally meant daily fare but in current popular use, it usually refers to a food regimen designed to change something. There are literally hundreds of different diets that have variously been promoted as the best approach to losing weight or preventing disease. Unfortunately, most of these diets involve omitting certain foods (e.g., carbohydrates) or even focusing on one food item (e.g., grapefruit) resulting in diets that lack essential nutrients.

To help consumers meet their dietary needs, the USDA adopted the Food Guide Pyramid in 1992. The Food Pyramid is based on the USDA’s *Dietary Guidelines for Americans*. Although it is updated every 5 years, *Dietary Guidelines* continues to be controversial. Some nutritionists argue that the agriculture and dairy industries exert undue influence and the use of “servings” instead of measures is not specific enough. Overeating often results from counting a large portion as one serving rather than multiple servings. The Centers for Disease Control and Prevention found a significant increase in kilocalories consumed per person from 1971 to 2000. This increase, along with modern sedentary lifestyle results in the rising prevalence of obesity, cardiovascular disease, cancers, and diabetes. In response to this problem, *Dietary Guidelines 2005* emphasizes calories and includes food measures, and exercise.

Discussion Questions:

- In the 1880s, 50% of children under the age of five had rickets; the disease was thought to be nonexistent in U.S. children by the 1960s. However, as of the late 1990s, there is a very slight resurgence of this disease in U.S. children. One of the recent cases was a 17-month-old male diagnosed with severe rickets. The child was seen on a regular basis by his pediatrician and was growing normally until his 9-month check-up. Thereafter he stopped growing in both height and weight. At 10 months of age he was weaned from breast milk and was begun on a soy beverage, which his parents drank in place of milk. The patient regularly ate tofu, sweet potatoes, potatoes, spaghetti, fig bars, infant cereal, bananas, strawberries, and other fruits, and vegetables; he consumed no animal products. His diet was adequate in calories [114% of the recommended daily value (RDV)], carbohydrates (108% RDV), and fat (117% RDV), and high in protein (355% RDV). What was the cause of rickets in this child? How could the disease be prevented in children?
- The hypothetical nutrition label shown at the right is typical for many commercial snack foods. Keep in mind that a nutritionist's Calorie is actually a kilocalorie. Use this label to answer the following questions:
 - What is a calorie a measure of?
 - How many kilocalories would you get from saturated fat if you ate the entire package?
 - The joule (J) is the metric unit of energy and used on food labels outside of the U.S. $1 \text{ cal} = 4.184 \text{ J}$. How many kilojoules are in one serving of this product?
 - There are three chemicals listed on the label that are not organic molecules. What are they?
 - How many kilocalories would you get from protein if you ate one serving of this food?
 - How many kilocalories would you get from fat if you ate one serving of this food?
 - Design the nutrition label for the perfect snack food that would tide you over between lunch and dinner.
- Social and lifestyle influences have a major impact on the eating patterns of children and their future health.
 - Discuss the need for government regulations on the advertising of food to children.
 - Government food guides change every five years. What factors influence changes to the food guide?
- Recent research shows that income can be more powerful than genetics in predicting future health problems. Poor-dietary quality is common among economically disadvantaged groups

Nutrition Facts	
Serving size: 118 g.	
Servings per container: 2.8	
Amount Per Serving	
Calories 370	Calories from fat 170
% Daily Value	
Total fat 19 g	29%
Saturated Fat 11g	55%
Unsaturated Fat 5 g	5%
Trans Fat 0 g	
Cholesterol 15 mg	10%
Sodium 240 mg	15%
Total Carbohydrate 46 g	8%
Dietary Fiber 2g	
Sugars 33 g	
Protein 3g	
Vitamin A 0%	Vitamin C 0%
Calcium 2%	Iron 10%
*Percent Daily Values is based on a 2,000 Calories diet. Your daily values may be higher or lower depending on your caloric needs.	
Calories per gram	
Fat 9 • Carbohydrate 4 • Protein 4	

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in the U.S. Low fruit and vegetable consumption resulting in vitamin C and beta-carotene deficiencies has been consistently recorded among economically disadvantaged people. Moreover, increased risks of cancers and cardiovascular disease have been associated with low fruit and vegetable diets. Obesity also plays a significant role in causing poor health, negatively affecting quality of life and shortening quantity of life. Studies have shown that low-income women are most likely to be overweight. The causes underlying the unhealthy food choices made by economically disadvantaged individuals are not fully understood. The following are been identified as factors:

- Insufficient food storage space and avoidance of food wastes,
- Inadequate nutrition knowledge,
- Cost of maintaining a large refrigerator and freezer,
- Impact of social contact,
- Pricing inequities between small local shops and large supermarkets that are only accessible by automobile

Assume that you have been hired as a consultant to the governor of your state: Develop a plan for combating nutritional deficiencies and obesity in economically disadvantaged people in your state.

5. Suppose you saw an ad for a weight-loss product that contained the following testimonial as evidence of its effectiveness: “No dieting. No exercising. Just two tablets mid-morning. My body was satisfied and I didn’t feel deprived. The pounds just melted off. I feel the best I’ve ever felt—and I don’t feel as much stress anymore!”* (*The footnote states that “The weight loss presented is applicable to the individual depicted and is not a guarantee of your weight loss nor is it typical.”) Evaluate the evidence in support of this product, and suggest better evidence.

Future Implications: The discovery of information about nutrients and the body, especially trace elements such as zinc and selenium, and vitamins, such as folic acid, is on-going. In 1954 replacing butter with margarine was encouraged to avoid butter’s saturated fat. Then, in 1994 studies showed that trans-fatty acids in margarine raised cholesterol more than saturated fats. By 2000, all dietary fats were discouraged. Now we know that certain unsaturated fats (i.e., omega-3 and omega-6) are essential and prevent heart attacks and strokes. As knowledge increases, diet schemes will proliferate. Whether trying to lose weight or maintain health, individuals need to avoid fad diets. While there is no set approach to identifying a fad diet, many have the following characteristics:

- Promises a quick fix
- Lists “good” and “bad” foods
- Sells one product
- Based on a single study, without review by other researchers
- Eliminates one or more of the four food groups.

There is no single healthy diet and a healthy diet does not mean deprivation or monotony. A lifestyle that includes regular exercise and a varied diet with moderate portions is still the best method to maintaining a healthy body.

Additional Resources:

Bauer, J. *The Complete Idiot's Guide to Total Nutrition*, 3rd ed. Indianapolis: IN: Alpha Books. 2003. A common sense approach to healthy nutrition and weight loss.

Leonard, W. R. "Food for Thought." *Scientific American* 287 (6):106-115, December 2002. Discusses the relationship between calories needed to fuel the body and food intake.

"Nutrient Data Laboratory." U.S. Department of Agriculture. <<http://www.nal.usda.gov/fnic/foodcomp/search/>>. This is a searchable database for nutritional composition of foods.

Rinzler, C. A. *Nutrition for Dummies*, 3rd ed. Hoboken, NJ: Wiley Publishing, Inc. 2004. Includes good descriptions of the nutrients required by the human body.

"The Food and Nutrition Information Center." U.S. Department of Agriculture. <<http://www.nal.usda.gov/fnic/>>. Resource for dietary guidelines, supplements, food costs, and all aspects of nutrition; includes a variety of ethnic food guide pyramids.

Willett, W. C. and M. J. Stampfer. "Rebuilding the Food Pyramid." *Scientific American* 288(1):64-71, January 2003. Debunks myths such as "all fats are bad" and proposes a new food pyramid for healthy eating.