ABSTRACT

Obesity is more common in low-income families. One article states that according to new research poverty and obesity are linked because the poor cannot afford to eat a healthy diet. My hypothesis is that it is possible to eat a healthy diet on a low budget. My methodology was to examine peer-reviewed journals. I designed a meal plan for someone on a low budget. In addition to benefiting the greater Beloit community, my research can benefit Beloit College students, because many students are on a low budget. I visited local grocery stores to determine prices in Beloit. Whole grains, fish and fresh vegetables and fruits are far more expensive than foods with refined grains, added sugars and added fat. A shopping list with prices and locations and a set of meals with a nutritional analysis are presented to suggest one realistic solution.

INTRODUCTION

Obesity rates in the United States have risen sharply over the past two decades. Added sugar and fats account for over 50% of caloric energy in the typical diet (1). Sweet and fat-laden goods have assumed a major place in the food supply. Foods with the characteristic of having many calories per gram are called "energy dense". Such foods also taste good and are inexpensive and convenient to use.

Diets are greatly influenced by income. The burden of obesity falls excessively on the poor. Data from the U.S. Department of Agriculture Economic Research Service suggest that low-income families are most likely to consume high energy-density diets (2). Analyses of data for 68,556 US adults in the National Health Interview Survey by the Centers for Disease Control and Prevention showed that the highest obesity rates were associated with the lowest incomes and low educational levels (3). Rising rates of obesity in the United States have been linked to food supply trends and to the growing consumption of energy-dense foods (3). Energy cost of oils, fats and refined grains is considerably less than the cost of lean meats, fish, vegetables and fruits. Food costs are a barrier to dietary change. I hypothesized that I could provide a shopping list of inexpensive, healthy nutritional choices with prices and locations and a set of meals with a nutritional analysis. This would provide those who are on a low budget an example of how they could improve their diet.

METHOD

This information was gathered using Internet sources for peer-reviewed journal articles. I visited Cub Foods to gather prices of food items. I used the poverty income of \$22,000 for a family of three that spends 1/3rd of their money on food.

RESULTS

Eating healthy does not need to be difficult. In order to eat healthy one must make educated decisions when shopping. Focus on the Super Foods, which provide high nutritional value. Super Foods are especially useful to eat. Eating healthy involves building an eating style that is based on a whole grains, fresh produce, and good fats. These graphs point to how one can go about choosing the right foods to eat. These graphs use the food pyramid to organize, and select good choices with cost per serving.

A Healthy Diet on a Low Budget

Abigael Burke Biochemistry Program, Beloit College, Beloit, WI

Figure 1: Super Foods- Illustrates nutritious choices at a reasonable price.

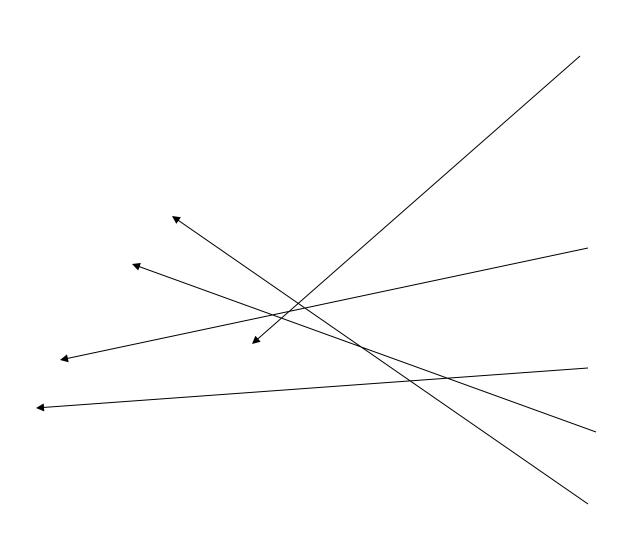
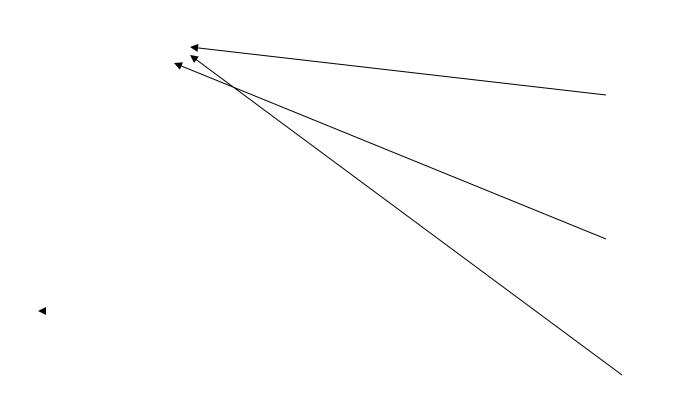


Figure 2: Popular Foods- Illustrates a list of foods that are bad choices. They include high levels of saturated fats and calories



DISCUSSION:

Two-thirds of Americans are overweight, and the government is telling them they should eat better (4). The government recommends to eat salads and fresh fruits, but this is just encouraging them to spend more money. The government will spend \$17 billion subsidizing farmers this year. Rather than supporting the producers of fruits and vegetables, half of its subsidies go to grain farmers, whose crops feed animals for meat, milk and eggs and become cheap ingredients in processed food. Thus, the government's farm subsidies make for inexpensive meat and cheap ingredients for processed foods, while health-conscious consumers following the same government's nutrition advice are left paying more for their fruits and vegetables. Persons with a limited food budget get a lot more calories per dollar from a hamburger with fries, containing plenty of saturated and trans fats and "bad carbohydrates," and a soda sweetened with high-fructose corn syrup, than they do from buying apples or broccoli. For example, toaster pastries contain partially hydrogenated soybean oil for that flaky texture and high-fructose corn syrup for a sweeter fruit filling. That translates to lots of calories, lots of artery-clogging fat and little or no healthful fiber. Not surprisingly, low socioeconomic status, or poverty, is associated with excess body weight, diabetes, high blood pressure, heart disease, and premature death. In fact, being poor in the U.S. takes off almost twice as many years of life as life-long smoking (4).

Figure 3: Help on the Farm- Illustrates the distribution of federal assistance for farming for 2005. This table illustrates how the majority of money goes towards feed grains instead of producers vegetables and fruit.

REFERENCES

- 1. Drewnowski and Levine. Sugar and Fat-From Genes to Culture. J. Nutrition 133:829S-830S,2003
- 2. Drewnowski A and Specter. *Poverty and obesity: the role of energy density and energy costs*. Am J Clin. Nutrition; 79:6-16.
- 3. Drewnowski A and Specter. *Poverty and obesity: the role of energy density and energy costs*. Am J Clin. Nutrition; 79:6-16.
- 4. Frei B. *Current Funding On Agriculture*. Linus Pauling Institute http://lpi.oregonstate.edu/f-w05/director.html
- 5. Johnson, Ron & Lori. Nutrition data.com. http://www.nutritiondata.com/index.html Accessed 27, October. 2005
- 6. Willett W. Eat Drink, and Be Healthy. New York: Free Press, 2001.