

Suggested Answers to Case Study Chapter 10, Disorders of Nutritional Status

A school nurse is developing an educational program on obesity for 10 overweight eight graders. She plans to actively involve the children in an assessment of their own health and eating habits.

1. How would the nurse have identified the children needing this program? What assessment parameters could she use?

There are several easy ways the school nurse could assess weight in these children. One, of course, is weighing each child and recording the weight. She will have access to a body mass index (BMI) chart, which is a measure of weight in kilograms divided by height in meters squared. A BMI of 18.5 to 25 is considered normal for most. A BMI of 25 to 25.9 is considered overweight, and a BMI of 30 or greater is considered to be associated with obesity. You can use the following Web site to calculate your own BMI:

<http://www.nhlbisupport.com/bmi/>

She could also use skinfold calipers to try to determine body fat composition. There are several other methods to determine body fat composition that require special equipment that would not be available within the school setting.

2. How would the nurse compare and contrast the functions and use of proteins, fats, and carbohydrates as an energy source?

Proteins or amino acids supply 4 kcal/g and are important building blocks for all body cells. They are very important in fluid and electrolyte balance, as they are responsible for the plasma proteins found within the vascular system. Proteins not only are necessary for cell formation and repair but are essential for formation of important body enzymes. It is important to realize that if an individual eats more amino acids than necessary for protein synthesis, they will be converted to fatty acids and stored.

Fats provide 9 kcal/g and are an important energy source for the individual. They also provide important carrier molecules for fat-soluble vitamins. It is important to realize increased intake of especially saturated fats can increase blood cholesterol and be responsible for cardiovascular disease.

Carbohydrates also provide 4 kcal/g of energy. They provide a rapid energy source, and what is not needed for energy will be stored as triglycerides in fat cells.

3. If as the nurse you needed to plan a weight-loss program for one of the children who have a BMI of 35, how would you proceed?

The most important point to consider initially is this child is at high risk with a BMI of 35. It is also important to recognize adolescents are often in a high growth period with increased nutritional needs.

Assessment is the first step of the process. In this case, you would want a diet and exercise history. You would want to collect information about the family's eating habits and cultural factors that may impact choice of foods. You would want to know if the child has any health problems and if he or she is taking any medications.

Analyze the data and decide what factors may be important in the child's obesity.

Develop a diet plan that provides for important nutritional needs and reduces intake to lose 1 to 2 pounds per month.

Develop a monitored exercise program that is gradual and can be a part of his continued lifestyle plan

Encouragement, encouragement, encouragement.