Teenage Nutrition

Adolescents characteristically have unique nutritional needs. With the exception of the first year of life, the growth rate during adolescence is greater than at any other time in life. Physical changes taking place during this growth period include increases in height and weight, deposition and redistribution of fat, increased lean body mass, and enlargement of many organs. Because nutrition is intricately related to these physical changes, requirements for nutrients and energy are greatly increased.

In recent years, the incidence of anorexia and bulimia in adolescents has gained national attention. Other common practices include extremely limited food selection, fad dieting and binge eating.

UA nutrition educators are joining those from five other states in a concerned effort to determine the best method to communicate with teens in regards to nutrition and food concerns. This research is based on communication theory and centers on "receiver-oriented" rather than "sender-oriented" messages.

Individuals have unique methods of processing information. "Sender-oriented" messages do not take into account that a message has information value to a receiver only to the extent that it can be interpreted, understood and applied by that receiver to his/her own time, place and perspectives. This frequently accounts for the "communication gap" which is noted between generations.

Initial research at the UA has focused on determining adolescents' perceived nutrition information needs using a sense-making approach developed by communications researchers. Arizona teens' major concerns appear to be focused on dieting and weight control, fitness and athletic performance, and

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more general concerns as to the safety of foods. Both girls and boys were consistently trying to "master" or "figure out" nutritional situations, with both sexes greatly preferring to receive help or information from non-personal sources. Girls reported worries or concerns about food, nutrition and eating more frequently than boys.

Results from this and other research may assist experts in developing truly receiver-oriented public communication campaigns to reach nutritionally vulnerable adolescents.

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Diet and Heart Disease

Many Americans are concerned about how their diet, particularly dietary saturated fat and cholesterol, may be related to increased risk for heart disease. There is a different concern in agriculture that animal food products, such as eggs, red meats and dairy products which play such an important role in a balanced and nutritious diet, are often considered by the consumer as bad or unhealthy foods.

Numerous dietary recommendations have been given to the public to reduce dietary fat and cholesterol intake as a means of reducing blood cholesterol levels and theoretically heart disease risk. Two problems with such generalized dietary recommendations are that people initiate dietary changes without knowing whether they need to or not, and after they do so there is no process to find out whether blood cholesterol levels are reduced.

UA nutritional scientists are studying two facets of the diet-heart disease relationship by determining the variations between patients in response to dietary changes and how such changes affect the process of plaque formation involved in the development of heart disease. Techniques are now available to not only determine how a diet alters blood cholesterol levels but to also measure the effects of diet on the various blood lipoproteins, which carry cholesterol, and the production of cholesterol in the body.

Studies of volunteers on low and high cholesterol diets show that most individuals can readily handle an increase in dietary cholesterol by reducing the amount of cholesterol the body produces. The fact that most people are relatively insensitive to dietary cholesterol raises serious questions about generalized dietary recommendations if a large number of people would not gain a cholesterol lowering benefit.

Not only is it important to understand how diet affects blood cholesterol levels but to determine whether changes in the diet alter the actual process of plaque formation in the blood vessels of the heart. Using a cell model system, UA nutritional scientists are investigating the relationship between dietary fat and cholesterol with the accumulation of cholesterol within a cell type considered to play a role in plaque build up. By determining whether diet alters this interaction on an individual patient basis it is hoped that it may be possible to design the most effective diet based on the need of the patient.

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