Securing adequate food supplies and necessary nutrition is a global concern. The production, distribution, and consumption of food are matters that concern governments, corporations, and individuals everywhere. The enormous growth in the population of the world, from about 3 billion people to over 6 billion between the end of World War II and the end of the century has captured the attention of many scientists. The projection that by 2050 there may be twelve billion people in the world raises the need for nutrition to high levels of concern. To feed adequately the billions of people currently living and soon to be born means that whole resources are needed to supply the food people need.

Today, there are many issues dealing with food facing the world. In vast areas of the world, large numbers of people are malnourished. This is especially the case in the southern hemisphere. However, in contrast, in an increasing number of countries, mainly in the northern hemisphere, the larger issue is obesity.

The problem of malnourishment is not a problem of an inadequate supply of food on a global basis, it is a distribution problem. The poor, especially in the third world, could have food directly supplied to them by wealthier nations. However, this would destroy the local markets and local farmers. More commonly the misdistribution of food is due to exploitation of the population by local elites, unscrupulous merchants, or by local warlords.

Malnourishment occurs due to other factors as well, including poverty. Population growth has outstripped food supplies from traditional resources, and inefficient agricultural practices, political turmoil, and poor distribution of the world’s food supply contribute to malnourishment as well. In addition, environmental and weather conditions can affect food supply.

Malnourishment adds to the fragility of the health of people. Without an adequate diet, they become vulnerable to diseases. Some of these are preventable nutrition deficiency diseases. In contrast, people who are overweight or obese, as are millions in the United States, are prone to diet related diseases. These include heart attacks caused by clogged arteries that developed blockages from fatty diets. Cancer, diabetes, and many other illnesses are also thought to be caused by a poor diet.

Nutrition comes from the Latin word (nutr) which means to nurture or to nourish. Nourishment is what sustains life. In the healthcare field, health professionals having the central responsibility for applying nutritional science to individuals and to groups of people are those who practice dietetics.

The nutritional care of patients, clients, and others is the responsibility of the registered dietitian (RD). In a clinical setting it is the clinical nutritional specialist. In the area of public health it is the public health nutritionist who is responsible for high-risk individuals and others. This responsibility includes the job of assessing the nutritional needs and community programs designed and implemented to meet those needs.

Food is eaten to supply energy and nutrients for building and maintaining the body. It is not the case...
that any particular foods such as milk are needed to maintain health. Millions have lived long lives on what was available to eat, including foods designated as culturally accessible or desirable.

TO LIVE WELL

However, people eat for reasons other than survival. Prisoners in a concentration camp were able to subsist on rats if that was all that was available. However, eating can also involve dining in a social setting of family and friends during the vast number of meals consumed by people throughout their lives.

This means that the 40-known nutrients (including vitamins and minerals) currently known are consumed not just to live, but to live well in the company of others.

Sound nutrition is demonstrable by means of a well developed body, ideal weight for height ratio, good muscle development, good muscle tone, good posture, clear eyes, alert facial expressions, and having a good appetite and normal bodily functions. In the Book of Daniel (Chapter 1) in the Old Testament there is a story of a nutrition test that demonstrated that Daniel and his Jewish companions were healthier eating a vegetable diet than the youths who ate the Babylonian king's rich food, including meat, from his table. The story was told for religious purposes but it illustrates the importance of good nutrition to good health.

People who are well nourished are alert, active, and more productive than people who are lacking nourishment. They have more energy reserves and resist disease better.

Some people consume diets that give them borderline nourishment. They are able to meet their minimum needs, but they do not have energy reserves to meet physiologic, metabolic, fetal or infant development needs adequately. People who have poor eating habits may have borderline nourishment. Or people living with stress or low incomes may suffer from borderline nourishment. A significant number of people in the United States have a borderline diet.

Malnutrition occurs when the nutritional needs are not met. People who are malnourished do not have the nutritional reserves and energy to meet the stresses of life. These are often people living in poverty or who are homeless on the streets. It has been estimated that globally 50,000 people die every day from being malnourished. In the United States an estimated twenty million people suffer from hunger on a regular basis. Around the world a billion people do not get enough to eat.

In the United States many of the malnourished suffer from chronic diseases or are the elderly. The lack of sufficient nutrition in these cases is due more to the lack of adequate self-care or to the absence of adequate care giving.

Human health needs are such that human nutrition as a part of general nutrition science can be defined as meeting human health needs as part of the total life activity of human beings. Since everyone is different and has different nutritional needs for health at different times nutrition scientists have placed those needs into four categories. The categories are age group needs, health status, stress factors, and basic human needs.

Each age group has its own needs as they move through the lifecycle from birth, growth, maturity, and old age. Developing standards for the food requirements of people in different countries, especially in developed countries, began in about 1900. The guides for food and nutrition requirements were conditioned by the social, political and economic events of the times. They were also influenced by the
Among the factors inspiring advances in nutritional sciences and food guides were the great social events of the 20th century, wars, famines, economic depressions, and emergencies. In the past much of the focus in developed countries was on inadequate diets, today the focus has shifted to meeting the needs of the chronically ill and the dangers of excessive eating. Today there are three general types of nutritional guides in use. They are those that set nutritional standards, food guides, and dietary guidelines.

The Recommended Dietary Allowance (RDA) is one form of nutrition guide. They have been developed in most of the developed countries of the world as standards for every age and sex category. Usually they serve as guidelines for maintaining the health of population groups. They are group nutritional guides and not tailored for specific individuals. They are therefore highly variable and general in nature. They do not address the individual health needs of eaters nor do they set clinical needs. Instead they often serve as a reference base for nutritional science research to meet the needs of changing population groups.

In the United States nutrition and energy standards are called the Recommended Dietary Allowances (RDAs). Other countries have similar standards which have different names; however, there is only a little difference between them and the nutritional purposes.

RDAs were first developed during World War II in the United States. In 1941, prior to American entry into the war a national nutritional conference began work on standards. In 1943 a report was issued that gave nutrition workers a guide for planning and obtaining food needs for military operations and for the relief needs of liberated civilians.

Following World War II, research on the RDAs continued with the publication of updated guides through today. The word has since been assigned to the Food and Nutrition Board of the National Research Council. The Board is a part of the Institute of Medicine of the National Institutes of Health. Most of its funding comes from the United States government.

British, Canadian, and New Zealand standards are similar to those in the United States. In less developed countries are affected by the lower quality of food stocks. The standards followed are those of the Food and Agriculture Organization (FAO) of the World Health Organization (WHO).
Food supplies energy and nutrients for building and maintaining the body, but it is also eaten as a source of pleasure.

Food guides are used to interpret and apply sound nutrient standards in practical food guides that can help with the planning of individuals and families. The Basic Four Food Groups Guides and the Food Exchange Lists Guide are used to aid population groups that need simplified instructions. The Basic Four Food Groups has been used for decades and it was issued by the U. S. Department of Agriculture (USDA). The guide reflects the USDA’s concern for disposal of surplus commodities. Until 1958 the three groups of fruits and vegetables were combined into a single group. The Exchange Lists Food Guide was introduced in 1950 by the American Diabetes Association and the American Dietetic Association. In order to manage meal planning diets for people with diabetes. It was based on the unique concepts of food exchange groups. The ability to exchange between food groups and basic planned meals gives a person greater freedom over their diet.

In 1986 the food exchange lists underwent significant revisions in order to reflect the advances in nutrition and health sciences. The six basic food groups were completely reorganized and three exchange lists were added. These included free foods and seasonings, combination foods, and foods such as a slice of birthday cake which are eaten only occasionally. The new guide was a powerful educational tool for diabetics and for others managing chronic health issues and nutrition needs.

Since the end of the 20th century more health promotion guides have been published. These guides represent the growing concern of health professionals, consumer groups, and the government. Three

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health promotion guides that have been issued are the U.S. Dietary Guidelines, the Dietary Guidelines for Heart Disease Prevention, and the Dietary Guidelines for Cancer Prevention. Clinical applications include guidelines that include eating a variety of foods, maintaining ideal weight, avoiding fats (especially saturated fats), eating enough fiber, avoiding sugar and salt, consuming alcohol in moderation. The Guidelines for Cancer Prevention first published in 1985 set guideline for the consumption of fats, fiber, Vitamins A and C, vegetables, preserved foods, and alcohol. The guides are used for diet education.

SEE ALSO:
Dieting; Nutritionist

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