

Lesson 3: Nutritional Value of Beverages

Have you ever heard of "empty calories." These are foods or drinks that provide calories in your diet but supply very few or no nutrients. Yet many beverages do supply nutrients, as this lesson will explain.

Nutritional Benefits of Beverages

Beverages are an important part of the human diet. The most important function of a beverage is to supply necessary fluids for the body. Depending on the specific beverage, some supply carbohydrates, protein, fat, vitamins, and or minerals. Also, beverages supply the fluid necessary for normal metabolism.

How the Body Utilizes Beverages

Since the human body is 60 percent water, water is very important in the diet and to a person's health. Dehydration symptoms appear when a 5-10 percent reduction in the water balance occurs, accompanied by thirst, weakness, and mental confusion. Water has four major functions in the body: a medium for carrying nutrients within body fluids; a solvent for organic and inorganic chemicals necessary for life, and a medium for which the chemical reactions can be dispersed in; a carrier for the nitrogenous wastes generated by cellular metabolism; and as a control and maintainer of body temperature.

Of course the body will utilize the other nutrients that may be found in the beverage similarly to how it utilizes nutrients found in food. Generally, nutrients are absorbed through the intestinal wall into the bloodstream, with the exception of molecules of aspirin and alcohol which are absorbed through the stomach wall.

Alcohol is metabolized differently than most nutrients. It is absorbed in the stomach where it goes directly to the liver. Alcohol is broken down to its components and used like other nutrients. However, too much alcohol can overwork the liver, causing it to incompletely break down other nutrients. An overworked liver will convert other components to fat. This fat deposits in the liver, causing many other problems. Ultimately, the liver can stop functioning properly. This disease, called cirrhosis, is one of the top ten causes of death in the U.S.

Nutritional Qualities of Common Beverages

Milk is very nutritious as it supplies protein, carbohydrates, fat, vitamins, minerals, and water.

Carbonated soft drinks, the leading beverage in terms of consumption, provide water and carbohydrates. Some provide minerals, like sodium. Others contain fruit juice, which supplies some vitamins. In general, carbonated beverages contribute very few nutrients and should be consumed in moderation. Excessive consumption of these beverages may interfere with the body's ability to absorb calcium.

Coffee and tea, unless they include cream or sugar, supply no nutrients except water.

Fruit juices provide water, carbohydrates, vitamins, and minerals. Some may provide small amounts of protein.

Nature's Almost Perfect Food

Why is milk called nature's most nearly perfect food? It is nature's most perfect food because it is naturally in a liquid state and is easily consumed by young and old alike. Milk protein is of premium quality, including all essential amino acids. The nutritive value of vegetable proteins are substantially increased when milk is consumed with them. The two primary proteins in milk are casein and lactalbumin.

Lactose is the principal carbohydrate found in milk. Milk is the only significant source of lactose in nature. Lactose may have a special role in the growth and development of the central nervous system. Lactose stimulates the growth of microorganisms in the intestine, which produce organic acids and synthesize many B-complex vitamins. Lactose enhances absorption of calcium, phosphorus, and magnesium in the intestine.

Milk fat contains a relatively high amount of short-chain fatty acids, which are easily digested by humans. Some nutritionists believe these short chain fatty acids do not contribute to heart disease like the longer chain saturated fatty acids found in other animal fats. Milk also contains unsaturated, essential fatty acids.

The major minerals found in milk include calcium, phosphorus, potassium, chlorine, sodium, sulfur, and magnesium. Milk is not a very good source of iron or copper in the diet.

Milk contains all known vitamins and is an especially good source of riboflavin and other B vitamins. Vitamins A and D are usually added to milk as a supplement. Vitamin C, ascorbic acid, is the only vitamin needed for good health that milk cannot completely satisfy.

Milk is not a particularly good source of vitamin C, principally because it is pasteurized to prevent the spread of disease causing microorganisms.

Summary

Beverages play a vital role in the diet. Water balance is maintained in the body by consuming water and other beverages.

Body fluid is a medium for carrying nutrients, a solvent for organic and inorganic chemicals, a carrier of waste products, and a control for body temperature. Common beverages provide carbohydrates, protein, fat, minerals, and vitamins depending on the particular beverage. Milk is considered nature's most nearly perfect food. It contains most of the necessary nutrients in high quality form.

Credits

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