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COURSE: BCH 206
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ASSIGNMENT!!!

1. What is a functional food
 - b. Describe the different types of functional food
 - c. With relevant examples, give the clinical implications of functional foods
2. What is nutritional status assessment.
 - b. Describe anthropometric techniques of nutritional assessment and its applications
3. Describe nutrition as it relates to life stages

ANSWERS:

1. Functional foods can be defined as a food given as an additional function (often or related to health promotion or disease prevention) by adding new ingredients or more existing ingredients. Functional food is a natural or processed food that contains various nutrients which when in defined quantitative and qualitative amount is an important source in the prevention, management and treatment of chronic diseases.

1b. Conventional food: these are the most basic functional food because they haven't been modified by enrichment or fortifications.

Modified food: Food that has been enriched, fortified or enhanced with nutrients of other beneficial ingredients.

Medical food: Medical food is defined as food formulated to be consumed or administered enterally under the supervision of a physician.

Food for special dietary use: Similar to medical food but they are available commercially and don't require the supervision of a health care provider that is a physician.

- 1c a. They promote optimal health and help reduce disease risk; example is oatmeal because it contains soluble fiber that can help lower cholesterol levels
- b. It reduces the risk of osteoporosis ; an example is orange juice that has been fortified with calcium.
- c. It reduces the risk of heart diseases; example is fish oil with omega-3 fatty acid
- d. It reduces the risk of iron deficiency ; example is infant formula with iron.

2. What is Nutritional Assessment

Nutritional status of an individual is often the result of many inter related factors. It is influenced by food intake, quantity, and quality and physical health.

b. Describe anthropometric techniques of nutritional assessment and its applications

Anthropometry is the measurement of body height, weight & proportions. It is an essential component of the clinical examination of infants, children & pregnant women.

To assess growth in children you can use several different measurements including length, height, weight and head circumference.

a. Length:

A wooden measuring board (also called sliding board) is used for measuring the length of children under two years old to the nearest millimeter. Measuring the child lying down always gives readings greater than the child's actual height by 1-2 cm.

b. Height

This is measured with the child or adult in a standing position (usually children who are two years old or more). The head should be in the Frankfurt position (a position where the line passing from the external ear hole to the lower eye lid is parallel to the floor) during measurement, and the shoulders, buttocks and the heels should touch the vertical stand. Measurements are recorded to the nearest millimeter.

c. Weight

A weighing sling (spring balance), also called the 'Salter Scale' is used for measuring the weight of children under two years old, to the nearest 0.1 kg. In adults and children over two years a beam balance is used and the measurement is also to the nearest 0.1 kg. In both cases a digital electronic scale can be used if you have one available. Do not forget to re-adjust the scale to zero before each weighing.

d. Head circumference

The head circumference (HC) is the measurement of the head along the supra orbital ridge (forehead) anteriorly and occipital prominence (the prominent area on the back part of the head) posteriorly. It is measured to the nearest millimeter using flexible, non-stretchable measuring tape around 0.6cm wide. HC is useful in assessing chronic nutritional problems in children under two years old as the brain grows faster during the first two years of life.

3. Nutrition as it relates to life stages;

- a. pregnancy
- b. infancy
- c. childhood
- d. adolescence
- e. adulthood

Life stage;

a. Pregnancy: A varied diet which provides adequate amounts of energy and nutrients, is essential both before a woman becomes pregnant (preconception) and during pregnancy, the mother's diet can affect the health of the baby.

Examples of Nutrients needed at this life stage are;

energy, protein, essential fatty acids, vitamin A, vitamin C, B-vitamins (B1, B2, B3, B5, B6, B12, folate, choline) & calcium, phosphorus, magnesium, potassium, iron, zinc, copper, chromium, selenium, iodine, manganese, molybdenum.

Life Stage;

b. Infancy/Childhood: The energy requirements of children increase rapidly because they grow quickly and become more active. This means they have a high energy requirement for their size. Young children do not have large stomachs to cope with big meals. Therefore, to achieve the relatively high energy intake for their age, they should consume small and frequent meals.

Examples of Nutrients needed at this life stage;

energy, protein, essential fatty acids.

Life Stage;

c. Adolescence: Adolescence is a period of rapid growth and development and is when puberty occurs. The demand for energy and most nutrients are relatively high. Boys need more protein and energy than girls due to their later growth spurt. A growth spurt begins around 10 years of age in girls and 12 years in boys. In both sexes, an average of 23 cm is added to height and 20 to 26kg in weight. Before adolescence, both girls and boys have an average of 18% body fat, during adolescence, this increases to around 28% in girls and decreases to around 15% in boys.

Examples of Nutrients needed at this life stage;

energy, protein, calcium, phosphorus, magnesium, zinc (females only)

Life Stage;

d. Adulthood: Nutritional requirements do not change much between the ages of 19 to 50, except during pregnancy and lactation.

Examples of Nutrients needed at this life stage;

Increased requirements for males, compared with females: vitamins C, K; B1, B2, B3, and choline; magnesium, zinc, chromium, manganese.

Increased requirements for females, compared with males: iron