NAME: ONOJA ENEWA

MATRIC NO:19/MHS06/034

DEPT: MEDICAL LABORATORY SCIENCE

COURSE: BCH 206

1a.Functional food is a natural or processed food that contains known biologically active compounds which when in defined quantitative and qualitative amounts provide a clinically proven and documented health benefits and thus an important source in the prevention, management and treatment of chronic diseases of the modern age.

Functional food are given an additional function- often one related to health promotion or disease prevention- by adding new ingredients or more to existing ingredients.

1b. Categories of functional food

1.Conventional foods : These are the most basic of the functional food because they haven’t been modified by enrichment or fortifications,they are still in their natural state. Most while fruits and vegetables fall into this category.

2. Mortified foods : these are foods that have been enriched, fortified or enhanced with nutrients or other beneficial ingredient e.g calcium fortified orange juice, Felicia acid enriched breads etc.

3. Medical foods : these are foods formulated to be consumed or administered enterally under the supervision of a physician and which is intended for specific dietary management of a disease or condition for which dinstictive nutritional requirements, based on recognized specific principles are established by medical evaluation.

4. Foods for specific dietary use: These are similar to medical foods but they’re available commercially and do not require the supervision of a healthcare provider. They fill dietary needs that are due to a specific health condition e g lactose intolerance, obesity etc.

1c Health benefits of functional foods

1. functional foods help in the development of the gastrointestinal tract which acts as an interface between the diet and all other metabolic functions. Some of the functional food are: dairy products, table spreads, baked goods and bread,breakfast cereal and bars, salad dressing.
2. Some functional foods could potentially promote optimal mental state and mental performance and influence behaviours eg cognitive performance, mood and vitality,short term memory etc. Example of the functional food are : vitamins
3. Some functional foods like green tea, caffeine, calcium help to control obesity as they act on the food before it is absorbed in the GI tract.
4. Functional foods enriched in unsaturated fatty acids could reduce the risk of cardiovascular disease and improve heart health
5. Use of whole grain foods, vegetables, fruits, foods low in fat and starchy foods with a low glycaemic index are important diet for patients suffering from diabetes mellitus
6. Foods enriched with glucosamine and chondroitin are used in dietary therapy of musculoskeletal diseases

2a Nitritional status assessment : This is the measurement of the nutritional status (that is the balance between requirements and intake) of an individual by anthropometry, biochemical method, clinical method, dietary evaluation method.

2b Anthropometry methods of nutritional status assessment : Anthropometry is the measurement of body height, body weight, mid-arm circumference, Skin fold thickness, head circumference,head/chest ratio and hip/waist ratio. It is used to evaluate both under & over nutrition. The measured values reflects the current nutritional status & don’t differentiate between acute & chronic changes.

Application of anthropometry:

It is an essential component of clinical examination of infants, children & pregnant women. In children, accurate measurement of height and weight is essential. The results can then be used to evaluate the physical growth of the child. For growth monitoring the data are plotted on growth charts over a period of time that is enough to calculate growth velocity,which can then be compared to international standards.

2c The key stages in life include: pregnancy,infancy,childhood, adolescence, adulthood and each of these stages have nutritional requirements that are unique to that stage in order to maintain good health.

| Life Stage | Change in Nutrient Needs |
| --- | --- |
| Pregnancy | Increased requirements: 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 |
| Lactation | Increased requirements: vitamins A, C, E, all B-vitamins, sodium, magnesium\*\* Decreased requirements**:** iron |
| Infancy, childhood | Increased requirements: energy, protein, essential fatty acids |
| Adolescence | Increased requirements**:** energy, protein, calcium, phosphorus, magnesium, zinc (females only) |
| Early adulthood (ages 19-50) | 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 |
| Middle age (ages 51-70) | Increased requirements: vitamin B6, vitamin D |
| Elderly (age 70+) | Increased requirements: vitamin D Decreased requirements: energy; iron (females only) |