

NAME: ANAMELECHI NGOZI JOY

DEPARTMENT: MEDICAL LABORATORY SCIENCE

LEVEL: 200

MATRIC NO: 18/MHS06/016

**BCH 206 ASSIGNMENT**

1a) a functional food is defined as a food given an additional function (often one related to health promoting or disease prevention) by adding new ingredients or more existing ingredients. In 1994, the National Academy of Sciences Food and Nutrition Board defined functional food as **“any modified food or food ingredient that may provide a health benefit beyond the traditional nutrients it contains.”**

1bi) Conventional food- it is regular food and beverages that you eat in normal portions. Foods that haven't been modified by enrichment or fortification e.g. grains, fruits, vegetables etc.

1bii) Modified food- foods that have been enriched, fortified or enhanced e.g. yoghurt, cereals and orange juice.

1biii) Medical food- they are also called foods for special medical purpose. Foods that are specially formulated and intended for the dietary management of disease that has distinctive nutritional needs that cannot be met by normal diet alone. To consume medical foods, you must be under direct medical supervision e.g. Axona, Limbrel, and Deplin. Etc.

1biv) Foods for special dietary use: they are similar to medical food just that they don't require the supervision of a health care provider. They are foods that fill special dietary needs that are due to specific health conditions such as diabetes, lactose intolerant, obesity etc.

1c)

| Functional food | Health benefit                  |
|-----------------|---------------------------------|
| a. Green tea    | Reduce risk of certain types of |

|   |                                    |
|---|------------------------------------|
|   | cancer                             |
| b. Cranberry juice                        | Reduce urinary tract infection     |
| c. Whole oat product                      | Reduce total and LDL cholesterol   |
| d. Tomatoes and processed tomato products | Reduce risk prostate cancer        |
| e. Fermented dairy products               | Support G.I health, boost immunity |
| f. Lamb, turkey, beef, dairy              | Reduce breast cancer               |

2. Nutritional status assessment is defined as what is used to determine whether a person or group of people are well nourished or malnourished (over-nourished or under-nourished).

2b. ANTHROPOMETRY METHOD OF ASSESING NUTRITIONAL STATUS

To assess growth, several different measurements including length, height, weight, head circumference, mid arm circumference, skin fold thickness, head (chest ration and hip/waist ratio) can be used. Height and weight measurements are essential in children to evaluate physical growth.

Body Mass Index (BMI) - it is an anthropometric indicator based on weight-to-height ratio. It is used to classify malnutrition in non-pregnant / non-post-partum adults. BMI is not an accurate indicator of nutritional status in pregnant women or adults with edema.

$$\text{BMI} = \frac{\text{weight (kg)}}{\text{Height}^2 \text{ (m)}}$$

BMI CHART BELOW

| BMI         | NUTRITIONAL STATUS    |
|-------------|-----------------------|
| <16.0       | Severe malnutrition   |
| ≥16.0 <17.0 | Moderate malnutrition |

|                |                           |
|----------------|---------------------------|
| ≥17.0 <18.5    | Mild malnutrition         |
| ≥18.5 <25.0    | Normal nutritional status |
| ≥25.0 to <30.0 | Overweight                |
| ≥30.0          | Obesity                   |

3) Nutrition and its life stages has to do with an individual's needs for nutrients and energy change over the life span. It's during a body's growth periods that the need for nutrients is greatest. These occur during pregnancy, infancy, adolescence. Once the growth period stops, energy needs and the need for certain nutrients declines.

### **PREGNANCY**

Healthy eating can increase the chances of having a healthy body. Gradual weight gain is important; 2-4 pounds during the pregnancy the first 3 months, then a little less that 1 pound per week for the remainder of the pregnancy. A total gain of 25-35 pounds is recommended. A pregnant woman's lifestyle and poor nutrition habits can lead to a low birth weight baby (less than 5 ½ pounds). All weight gained goes directly to the baby and the mothers tissue stores. Since the majority of the weight gain goes to the baby, a small weight gain can mean too small a baby.

### **INFANTS**

Breast milk provides all the energy and nutrients a baby needs for growth and maintenance during the first 4 to 6 months of life. In the first three days after birth, the mother produces a special form of breast milk called "colostrum" which contains less fat and more protective factors than the breast milk production later.

### **CHILDHOOD**

Young children like to feed themselves just the same way they like to do everything else for themselves. They do not have large stomach to cope with big meals; therefore to achieve their relatively high energy intake for their age, they should consume small and frequent meals.

## ADOLESCENCE

A child's body begins a period of rapid change in size and shape approximately around the age of 10 years in girls and 12 years in boys. This is called "The adolescent growth spurt". During the next four years, an average girl may grow 10 inches taller and gain 40 to 50 pounds. An average boy may grow 12 inches taller and gain 50 to 60 pounds. At the same time, their body shape begins to change too. The adolescent growth spurt requires many different nutrients.

## OLDER ADULTS

Throughout a lifetime, three of the keys to good health have been to

- Eat a variety of nutritious food
- Limit the amount of fat, salt and sugar in the diet and
- Regular exercise

These keys cannot guarantee good health, they can help an individual stay healthy as they grow older or perhaps improve health.