Case Study: Evaluation of your own diet

Background

During the course, a lot of information will be given to you on the importance of the diet, its impact on human health and well-being and, in practical terms, what a healthy diet should consist of. This will prepare you to evaluate the adequacy of your own diet. You should be able determine what foods you should avoid or reduce and what foods you should add or increase in your diet.

Note: This is only a practice exercise. There is large day-to-day variation in a person’s diet. A one-day dietary intake may not be representative of a person’s habitual diet. Using the diet for several days, including weekends, may be more accurate. Moreover, for greater reliability, the evaluation procedure is more complex, requiring good recollection of the food eaten and good estimates of the amounts, reliable data on food composition and the use of statistical analysis. However, this simplified exercise will make you aware of inadequacies of your diet and make you think of how you can make it more healthy.

24-Hour Dietary Recall

Recall and list all the foods and beverages that you consumed the day before the course (from midnight to midnight). Record the quantity consumed and description of the food or drink.

Calorie Intake

With the aid of a Food Composition Table (preferably your country’s table), for each food or drink, calculate the amounts (in g) of carbohydrate, protein and lipids in the quantity consumed and transform them into calories (kcal). Remember that each gram of lipid provide 9 kcal while each gram of protein or carbohydrate yields 4 kcal.

Calculate the total number of calories, summing up the calories from carbohydrates, proteins and fat of your 24-hour diet. Then calculate the contribution (percentage) of each of these macronutrients to the total calories.

To meet the body’s daily needs while minimizing the risk for chronic diseases, adults should consume:

- 45-65% of the total calories from carbohydrates
- 20-35% from fat
- 10-35% from protein
Does your diet fulfill this recommendation?

It is recommended further that the following should not exceed 10% of the total calories:

- Saturated fat
- Trans-fat
- Sucrose (sugar)

On the other hand, for fiber, an intake of at least 20-30 grams daily is recommended.

Does your diet fulfill the above limits?

**Daily Energy Requirements**

To maintain daily energy balance, your food-energy intake must match your body-energy output. An energy imbalance due to food-energy intake exceeding body energy output leads to obesity. Treatment includes decrease in food calorie intake and an increase in physical activity. When food-energy intake does not meet body energy requirements, weight loss occurs. Treatment in this case includes gradual increase in food calorie intake, moderate physical activity and rest.

Your total energy output (in kcal) is the sum of your body’s three uses of energy: basal metabolic rate (BMR), thermic effect of food (TEF) and physical activity. BMR is the energy expenditure by the body when at rest (but not asleep). The thermic effect of food is the energy the body uses in digestion and absorption (energy involved in eating); it averages 10% of the energy in the food. The energy used by physical activity can be approximated as a percentage of your BMR and varies with the degree of physical activity. For an average activity level classified as sedentary (mostly sitting), very light, moderate and heavy, the energy cost (% of BMR) is estimated to be 20%, 30%, 40% and 50%, respectively.

Calculate your total energy output on the day of the 24-hour recall as follows:

BMR (kcal) = 1 (for men) or 0.9 (for women) x kg weight x 24 (hours in a day)

TEF (kcal) = 10% of the total kcal in the food consumed (calculated above from your 24-hour diet).

Physical activity energy cost (kcal) = BMR x your activity%

(For example, if you are sedentary, your physical activity energy cost in kcal is equal to your BMR x 20%.)

Total energy output = BMR + TEF + Physical activity energy cost

Did you have an energy balance on the day of the 24-hour recall?
**Food and Food Components Needing Attention**

Limits are recommended for the following food components:

- 2.4 g or 1 ¼ teaspoon of salt per day
- 300 mg per day

Did your 24-hour diet meet these limits

Greater consumption of fruits and vegetables is being promoted worldwide. These plant foods are sources of vitamins, minerals and bioactive compounds, all highly important to human health and prevention of diseases.

How many servings of fruits and vegetables did you consume? Is this sufficient?

Existing recommendation calls for 5 servings of fruits and vegetables per day.

Finally, carefully go over the recommendations for healthy eating in Chapter 10 and verify how your 24-hour diet fare with the recommendations, verify what foods or food ingredients were consumed in excess and what foods or food ingredients were below recommended levels.

References