The Importance of Macronutrients and Micronutrients in Food and Our Energy Level

There is a French proverb that says: "Il faut manger pour vivre et non pas vivre pour manger (translation: You have to eat to live and not live to eat)". What would your response be if asked the reason for eating? Would the answer be that "food tastes so good" or "I love to eat"? Very few would say that eating is needed to sustain life. Actually, the reason we eat is simply to provide nutrients to the body so that it functions at its optimum level.

So, what is the definition of a nutrient? A nutrient is a substance found in food necessary for the sustainability of life. As mentioned in my previous article (Be A Healthier Version of You, June 2017), nutrients are classified into two categories: macronutrients and micronutrients. Macronutrients comprise carbohydrates, fats, and proteins and are responsible for manufacture of hormones, muscle, for example, and energy source. Micronutrients include vitamins and minerals and help with metabolism. Vitamins are necessary for different functions of the body (for example vitamin D is needed for calcium absorption) and are divided into water-soluble ones (vitamins B and C) and fat-soluble (vitamin A, D, E, K). The type of minerals that constitute a vital part of the micronutrient category are: calcium, iron, magnesium, zinc, sodium, potassium, and a few others. Even though some are needed in trace amounts, others are needed for absorption (for example, iron is needed for vitamin C to be absorbed by the body).

With this basic premise in nutrition basics, what might be missing when it comes to our energy level? Now, we are not talking about the multifactorial causes of feeling energized or depleted but how food can affect it. According to the U.S. Department of Agriculture (USDA), "adult Americans may not get enough of the following nutrients: calcium, potassium, fiber, magnesium, and vitamins A, C, E". So, are there foods that are nutrient rich and some nutrient poor? Before we explain what this means, let's illustrate with the following example: you are at work, did not bring lunch, you are hungry, you go to the vending machine and buy either a candy bar or chips. Compare this behavior to the one where you bring your lunch and it consists of some leafy greens with pieces of chicken and a fruit. What is the difference? To answer that question, we need to know what "nutrient rich" and "nutrient poor" mean. A nutrient-rich food is one that contains vitamins and minerals and low in calories versus the nutrient poor which is devoid of them and high in calories. A variety of healthy foods such as fruits, vegetables, whole grains, legumes, nuts, seeds, low-fat and fat-free dairy products, lean meats, and fish fulfill the definition of nutrient rich foods. So, in the previous example given, can you guess which one it is? (Hint: it's the processed one).

Clearly, a balance of both macronutrients and micronutrients benefit the body. More importantly, any deficiency in either of them can wreak havoc in the metabolism of food. You may have heard of iron deficiency which causes anemia or protein deficiency which results in malnutrition in children in some developing countries. And as we grow older, some of us may experience malabsorption of some of these nutrients.

Needless to say, the level of nutrients will vary in different foods. To ensure that you benefit most from these nutrients, here are a few simple tips that you can follow (please be sure to consult with your physician before implementing any changes in your diet):

- Avoid as much as possible processed food – they are nutrient poor
- When you cook vegetables, be aware that any extended frying or boiling (unless you keep the water in which vegetables were boiled) can destroy any nutrients.
- Eat the "colors of the rainbow" by buying vegetables and fruits of different colors

Give yourself a second chance at being healthy and your energy level will thank you.

Sources:

https://www.fda.gov

https://www.choosemyplate.gov

https://nihseniorhealth.gov