

Healthy Eating: Carbohydrates Vs. Proteins

-Neha Tripathi

New Delhi, June 07 (India Science Wire): A balanced diet comprises the nutrients the human body needs to stay healthy. As part of a balanced diet, people are advised to consume a variety of foods in the recommended proportions. Food is classified into different food groups according to its main nutrients. Every food group has a main nutrient in common and serves the same nutritional needs. A healthy diet is made up of foods from different food groups, as each group contributes some new nutrients to the diet.

“In a balanced diet, it is important to include cereals and millets, pulses and legumes, green leafy vegetables, roots and tubers, other vegetables, fish, flesh foods, nuts and oilseeds, spices and condiments, milk and milk products, sugar and jaggery, fats, and oils. However, three macronutrients: carbohydrates, fats, and proteins are vitally important for serving the energy need of human body. A healthy diet provides 55-60% energy from carbohydrates; 25-30% energy from fats; and 10-15% from proteins for daily requirement of energy,” explains Dr. Laxmaiah, Head, Division of Community Studies, National Institute of Nutrition, Hyderabad.

Two major components of a balanced diet are carbohydrates and proteins. They are the major nutrients that the body needs to function properly. Experts believe that in India we consume more carbohydrates compared to other countries. This may be because of the high consumption of cereals and pulses. Roughly one-third of Indians are estimated to be vegetarian. Their only source of protein is pulses (Dal) which also contain carbohydrates. Every 100g of dal has approximately 50-55% of carbohydrates and 20-25% of proteins. Cereals have approximately 70-80% carbohydrates and 8-10% proteins.

Dr Pulkit Mathur, Teacher In-charge, Department of Food and Nutrition, Lady Irwin College, Delhi, elaborates, “A minimum intake of 100-130g of

carbohydrates/day should be ensured for ages 1 year and above. This level is the minimum required for brain glucose utilisation.”

Let's compare this with the quantitative intake of proteins. Dr Mathur cautions, “Diets high in protein may be consumed by some trying to lose weight or those trying to gain muscle mass. Tolerable upper level of protein intake in adults is 40% of energy coming from proteins above which there is a risk of adverse effects. For children it is much lower at not more than 15% energy coming from protein. High protein intakes have been implicated in chronic diseases such as osteopenia and osteoporosis, renal stones, renal insufficiency, cancer, coronary artery disease, and obesity.”

Dr Mathur emphasises on choosing the right type of carbohydrates as well. “We should have more of complex carbohydrates like whole cereal grains, millets, pulses, and roots and tubers rather than simple carbohydrates like sugar and things made of sugar. The refined cereal products like white flour (maida), polished rice, millet flours from which fibre has been removed, should be reduced or replaced by whole grains. More than half the intake of cereal grains must consist of whole grains or intact grains,” she observes.

“We can get enough protein from normal foods in our diet. Protein quality of our diet is important – lean meat, fish, and low fat dairy products are sources of good quality protein. In addition, cereal grains consumed with pulses, like in our traditional diets, also provide good quality protein,” Dr Pulkit asserts.

Dietician Supriya Maurya highlights three major facts related to proteins. First, men need more protein than women. How much protein one needs depends on their sex, age, body weight, activity level, etc. An average man needs about 56 g of protein a day. Women need 46 g.

The second fact is that the athletes need more proteins than non-athletes. They need it to repair and rebuild muscles and tissues after strenuous physical activity.

The third fact is that our bodies don't store proteins the way they store carbohydrates and fats. That's why we need a steady supply of proteins every day.

It is important to know how the body identifies the calories being taken from carbohydrates and proteins. Dr Radha Reddy Chada, Chief Clinical Dietician, Department of Clinical Nutrition & Dietetics, AIG Hospital, Hyderabad, elucidates -“Proteins are not used for energy provision. They are used for cell synthesis, cell repair, and regeneration. Energy provision from proteins happens as the last function when the individual is not supplied with enough calories from carbohydrates and fats. Carbohydrates, during digestion and metabolism, have a protein sparing effect for allowing proteins to perform their primary role in the body.

Supriya expresses concern over the growing trend of people consciously eating a high-protein and negligible-carbohydrate diet.

“Yes it’s true that carbohydrates and proteins give the same number of calories per gram. However, by not eating enough carbohydrates and over-dependence on proteins, we allow our body to borrow the reserved calories from the liver. Once this supply exhausts, the body starts taking energy from proteins. This leads to ketosis, a metabolic state characterized by raised levels of ketone bodies in the body tissues and the primary function of proteins to build the muscles gets hampered,” cautions Supriya Maurya.

So, what happens inside the body when we eat carbohydrates and proteins? How eating them helps in weight gain or weight loss?

Dr Reddy Chada demystifies- “Digestion of carbohydrates and proteins has nothing to do with weight gain or weight loss. It’s only that if complex carbohydrates that contain fibre are included in the diet, then the digestion is slowed down and there is a feeling of satiety much sooner, thereby resulting in less food consumption. Similarly, the post-meal thermic effect of proteins in food is slightly higher than the thermic effect of carbohydrates in food during digestion.”

Dr Reddy Chada sees no reason to attribute weight gain to the consumption of carbohydrates. “Carbohydrates are essential part of a

healthy balanced diet. Weight gain is not due to carbohydrates alone, but from a high calorie coming from excess consumption of large portions of any type of food. Just aim to eat complex, whole grains instead of refined grains. Carbohydrates are processed by the body regardless of the time of day or night,” concludes Dr Chada.

It is a myth that vegetarians and vegans don't get enough proteins. Combining different plant foods, such as grains, pulses, and legumes, in a balanced diet, contributes to a “complete protein” for the day's diet. Eating a variety of protein-rich plant foods in the course of the day provides enough protein and easily fills in any amino acid gaps and requirements. (India Science Wire)

Keywords: Healthy Eating, Carbohydrates, Proteins, Balanced Diet, Nutrients, Health, Food, Cereals, Millets, Pulses, legumes, Vegetables, oilseeds, Macronutrients, National Institute of Nutrition

ISW/NT/AK/ENG/07/06/2021

(Neha Tripathi is a freelance journalist. The views and opinions expressed in this article are those of the author.)

