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PROTEINS: AS A NUTRACEUTICAL AGENT

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ABSTRACT

Nutraceutical agents are the agent which are different from the nutrition and used as the medicine. The Nutraceutical may be defined as the substance, which has physiological benefit or provides protection against chronic disease. Nutraceutical must be used for following manner for improvement in heath, increases the life expectancies, prevent from chronic diseases as well as in delay the aging process. Nowadays the people are showing interest in the potential nutritional and also safety and therapeutic effects. Recent studies have shown that these compounds in various complication. In present day concept of the Nutraceutical agents becoming trend in treatment of diseases the protein is also used as a Nutraceutical agent. The protein is the main key function of growth. The demand for growth is amino acid but the protein is the signaling molecules and function as neurotransmitters. Current knowledge shows that the level of both amino acid as well as protein intake can avoid the nutrition in the direct postnatal phase studies

INTRODUCTION

The proteins are the very important long chain amino acid in our body for function of our cells properly. They are the made up of amino acid. The structure as well as the functions of our body are depends on the proteins. The regulation of our cells and tissues and also organ are not happen without the proteins. all the organs like Muscles, skin, bones, and other one contains little amount of proteins in it including enzymes, hormones and antibodies. Proteins are essential molecules involved in widely in the activity which are performed intra as well as in inter cellular in the body. These activity are not included not all but they are limited to: maintaining the cellular defenses, enzymatic catalysis, metabolism and maintaining the structural integrity of cells, and signaling within and between cells. Protein are the driving source of the weight gain and anabolism which can be achieved at the very low level of the energy intake at that time when the amino acid or proteins are provided in adequate amounts. The amino acid is only used parenteral solution, whereas most infant formula containing the intake of proteins, although the hydrolyzed formula available. The protein is the major functional and structural compound in the body for cell function. The main characteristics of protein is amino acid its requisite amino nitrogen group. The nitrogen is the main component in the amino acid to form a protein. The amino acid is distinguishes by nitrogen in the example of sugar. The proteins are the long chain of amino acid in subunits in the protein molecules amino acid is joint with the peptic bonds. In biological system the chain formed might be anything from a few amino acids to thousands of units (polypeptide). The primary structure is formed by the sequence of amino acid in chain. The very difficult feature of protein is the complexity of their physical structure. The polypeptide chain is not longer in size but fold the structure the structure in 3 dimensional structures. The exact structures of the proteins are depending on the function of the protein &also the interaction with other molecules. They are one of the building blocks of body tissue and can also serve as a fuel source. As a fuel proteins provide as much energy density. The protein are the made up of polymer chains made up of amino acids linked together by peptide bonds, when the food is digesting in the body the protein are breakdown in the stomach in the smaller polypeptide chain via protease action and hydrochloric acid. The amino acids are 9 types which are forms the proteins are as follows [2]

1. Phenylalanine
2. Valine

3. Threonine
4. Tryptophan
5. Methionine
6. Leucine
7. Isoleucine
8. Lysine

Sources of proteins:

1. Vegetable
2. Meet
3. Eggs
4. Seeds and nuts
5. Fish
6. Cheese

A B C D

Fig 1: Sources of Protein A: Egges, B: Fish, C: Dry Fruits and D: Meat

Sources of proteins:

There is a many type of proteins in the nature as well as in artificial products. The largest source of protein is meet and vegetable. The protein is mainly found in the nature in the form of meet, vegetable. The recent survey of protein necessary for body was shows the daily intake of the protein in body is

0.75g/kg for adult women And 0.84g/kg for adult men , for example, a 75 kg adult male would need 63g of protein per day. It is recommended that 15 to 25 per cent of total energy intake per day is from protein sources. The human body cant store protein and will excrete any excess. Therefore, the most effective way of using the daily protein requirement is to eat small amounts of at every meal. Using the example of the 75kg male above, this would require

Some grains and cereal products are also gives the protein from it. But there is the amount of proteins is not high as compare to vegetable and meat. The Australian dietary guidelines recommended that particular serves per day from

The WHO is giving every year survey for identifying the amount of change in intake of protein in daily routing.[3]

Vegetable:

The vegetable is the best source of proteins. Where the 40% of the protein found in the vegetable. The many type of vegetable like nuts, watercress, alfalfa sprouts, spinach etc. the vegetables are main source of the proteins. The following chart shows the percent of protein [4]

Examples :

Vegetables name	% of proteins per 100 grams
watercress	2.3
Alfalfa sprouts	4
Spinach	2.9
Chinese cabbage or bok choy	1.5
Asparagus	2.2
Musterd greens	2.7
Broccoli	2.6
Collard greens	2.5

Meet:

It gives larger or major source of proteins. The meet like hen, gout and other gives large amount of proteins. The meet is found in many types like gout, hen, sheep etc.[5]

Eggs:

Eggs are also gives the large quantity of proteins. The eggs are often maligned for their high cholesterol content. But these inexpensive source of protein actually offer tremendous nutrition and can play a role in a healthy diet. Eggs can be eaten on their own or used in baked good, sauces, pudding, ice creams and casseroles. Eggs also provide small amount of calcium, irons, magnesium, phosphorous, potassium, zinc etc. one large chicken eggs contain 72 calories. Fat content of an eggs is 4.75g, with 1.55g of these saturated. Eggs contain just a trace amount of carbohydrates but are high in protein, with 6.28 per serving. The eggs white contains 3.47g of this protein.[6]

Seeds and Nuts:

Many nuts and seeds are valuable source of proteins, particularly for vegans and vegetarians. Nuts and seeds that offers heart healthy omega-3 fatty acids, vitamins, and minerals include pistachios 5.5g proteins 155 calories

Peanut- 7g proteins, 160 calories

Pistachios- 5.5g proteins, 055 calories

Pecans- 2.7g proteins, 195 calories

Sunflower seeds- 6.4g proteins, 073 calories

Pepitas- 9g proteins, 180 calories

Flaxseeds- 5 g proteins, 150 calories [7]

Fish:

In the addition of providing proteins, fatty fish are also the good source of proteins of omega-3 fatty acids, which improves cardiovascular health. Examples of fatty fish (u. s. foods &drug administration, 2008). Fish is low- fat but highly quality protein. Fish is filled with omega-3 fatty acids and vitamin such as D and B2 (riboflavin). Fish is packed with proteins; vitamins that can lower blood pressure and help reduce the risk of a heart attack or stroke. Fish is rich in calcium and phosphorus and a great source of minerals, such as iron, zinc, iodine, magnesium, and potassium. The American heart association recommended eating fish at least two times per week as part of a healthy diet. Fish is packed with proteins, vitamins, and nutrients that can lower blood pressure and help reduce the risk of a heart attack or stroke.

Eating fish is an important source of omega-3 fatty acids. These essential nutrients keep our heart and brain healthy. Omega-3 fatty acids found in every kind of fish but are especially high in fatty fish. Some good choices are salmon, trout, sardines, herring, canned mackerel, canned light tuna, and oysters.[8]

Cheese:

Cheese is the dairy products that come in hundreds of different textures and flavors. However, cheeses are also an excellent source of proteins, calcium, and weight loss and help prevent heart disease and osteoporosis. Cheese is the assembly of Para-casein and the degree to which the component Para- casein micelles are aggregated and fused as affected by manufacture operation. [9]

CONCLUSION:

Protein is very important for almost all of the processes that occurs in the body. It is necessary for our body to make antibodies, which fight against Infection and illness and protein is what keeps our hair skin and bones healthy. Protein is an important part of our daily diet and it should be consumed every day. Nutraceutical agent nutritionist recommend that you eat 2-3 servings of dairy product every say and 2-3 servings of meat, poultry, fish, or shellfish a day.[10]

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