

Health Benefits of Dietary Protein and Its Functions in The Body

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Abstract— *Proteins are large complex molecules that play critical roles in the body. Protein is a nutrient that the body needs to grow and repair cells, and to work properly. Most of the work in the cells and are required for the structure, functions and regulation of body tissues and organs. Protein is made from twenty-plus basic building blocks called amino acids. Protein is found throughout the body—in muscle, bone, skin, hair, and virtually every other body part or tissue. It makes up the enzymes that power many chemical reactions and the haemoglobin that carries oxygen in your blood. At least 10,000 different proteins make our body to function our body. Despite the growing nutrition consciousness, our diets continue to be heavy on carbohydrates such as rice and wheat, ignoring other nutrients such as proteins, vitamins, and minerals. This paper focuses on the health benefits of dietary protein and its functions.*

Indexed Terms- *Proteins, Health benefits, RDA of protein.*

I. INTRODUCTION

Protein is important for individuals to consume every day. Daily protein intake plays a role in keeping your cells in good shape and condition. Protein is made up of amino acids, commonly known as building blocks, because they are attached in long chains. It is also considered a “macronutrient,” meaning that large amounts of protein is needed relatively to stay healthy. The ‘building blocks’ of life, proteins are not only lacking in the Indian diet, but often overlooked. India’s protein consumption is much lower than the 48 gms/day that is recommended by the Indian Council of Medical Research (ICMR). The recommended dietary allowance of protein for an average Indian adult is 0.8 to 1 gm per kg body weight, however, the average intake is about 0.6 gm per kg body weight. A 2017 survey shows that 73 percent of Indians are deficient in protein while above 90 percent are unaware of the daily requirement of protein. A recent survey across 16 cities in India on perception, knowledge and

consumption of protein found a gap in the knowledge of quality protein in daily diets. Various myths surround protein consumption with 85 percent believing it leads to weight gain.

Proteins are large compounds having a good amount of nutritional value. They are formed by the combination of smaller amino acids and contribute energy equivalent to 4 calories per 1 gram of protein to the body. Our daily diet generally consists of 10-35% proteins, which fulfill our daily requirement. It is usually recommended that one should take 1 gram of protein per 1 kg of body weight, in order to stay fit.

Globally, protein consumption is on the rise, averaging at 68 gm per person per day but India has the lowest average protein consumption at 47 gm per person per day as compared to other Asian countries as well as developed nations. A survey of 2100 Indian mothers in a Right to Protein Study in 2020 found that 84 per cent believed that it is more important to include carbohydrates rather than protein in the diet for energy.

At the same time, surveys by the National Nutrition Monitoring Board show that Indian diets derive almost 60 per cent of their protein from cereals which have relatively low digestibility and quality. To overcome this problem the Government of India has laid out its vision on 31st May 2023 for an ‘Amrit Kaal’ or developed era in the next 25 years. One of the objectives of this program is to give awareness among the public about protein intake. Adequate protein intake is essential for optimal physical and cognitive development, leading to a more productive and robust workforce.

Health Benefits of Protein in our Diet:

1. Enhances Muscle development: A protein-rich diet helps in Body building, which is an important

aspect in our body. It supports the building of tendons, ligaments and other tissues which help in maintaining a healthy muscle mass. Proteins also helps to repair the damaged muscles to grow back stronger and recover the tissues quicker.

2. **Maintains ideal weight:** A Protein-rich diet helps in maintaining an ideal body weight and prevents over eating. Protein in the diet helps to feel full and satisfy the daily dietary requirements. It is considered to be a good weight loss strategy if required amount of protein is taken daily in the diet.
3. **Maintains bone metabolism:** Proteins helps in increasing calcium and magnesium absorption in our body, thereby increasing the bone strength. It also helps in healing bone fractures and even osteoporosis which is considered to be a common problem in elderly.
4. **Prevent heart diseases:** Proteins play a major role in functioning of heart. Many studies prove that proteins help to prevent high blood pressure. It also lowers down cholesterol levels. A shift from carbohydrate-rich diet to protein-rich diet helps to prevents heart – related diseases.
5. **Controls Blood sugar levels:** Insulin is a hormone which helps in maintaining blood sugar level. Proteins require very less amount of insulin Whereas carbohydrates require a greater amount of insulin. Thus, protein-rich diet utilizes very less insulin and helps in control of sugar level.
6. **Boosts Brain Functions:** Proteins help in boosting healthy brain functions and hence promote learning and remembering things. In fact, proteins help in forming brain neurons which perform its functions smoothly.
7. **Slows down ageing process:** Amino acids help in the detoxification process and also help in generating glutathione which help in reducing carcinogens in our body. Thus, it helps in slowing down the aging process by improving the overall health of the body.
8. **Improved immune system:** Proteins helps in making the immune system much stronger because antibodies which fight with various diseases are made up of proteins. Thus, antibodies help in preventing diseases by boosting our immune system and make us immune to various diseases.

9. **Helps in hormone balance:** Some hormones are made up of amino acids which perform various important functions in our body. Enzymes are protein catalysts that help in the balance of these hormones. They also help in carrying out various chemical reactions that occur in our body. The performance of hormones directly or indirectly depends on proteins.

10. **Prevent hair damage:** Healthy hair depends on the daily protein intake. Protein helps in preventing hair damage and therefore many hair care products contain protein. Studies show that keratin which is a protein that helps in preventing hair loss and also help make them shiny and healthy.

11. **Maintains skin healthy:** Healthy skin needs more protein and this can be achieved with the help of increasing seafood in the diet.

12. **Eliminates anxiety:** Protein helps in decreasing anxiety and depression levels. They are rich in protein and magnesium which help in maintaining a healthy neurological system.

CONCLUSION

An adequate protein intake is the foundation of nutrition security for a developing nation to improve health outcomes, boost economic productivity and reduce nutrition poverty. Adequate protein intake is essential for optimal physical and cognitive development, leading to a more productive and robust workforce. Individuals with protein deficiency are more likely to experience health issues that can impact their productivity and work performance. Nutritionists, Anganwadi workers who are working with Pre-schools, offices, hospitals and other fronts are, thus, required to ensure protein sufficiency to reduce the risk of associated health problems such as muscle wasting, hormonal imbalances, obesity, etc. Awareness programs can be conducted to schoolchildren, college students to take adequate amount of protein for good health. Thus, leading a healthy population with fewer healthcare costs, increased life expectancy, and better quality of life, which lead to essential factors in the economic development of a nation.

REFERENCES

- [1] Astrup A, Raben A, Geiker N. The role of higher protein diets in weight control and obesity-related comorbidities. *Int J Obes.* 2015;39(5):721-726. i:10.1038/ijo.2014.216.
- [2] Arentson-Lantz, E., S. Clairmont, D. Paddon-Jones, A. Tremblay, and R. Elango. 2015. Protein: A nutrient in focus. *Applied Physiology, Nutrition, and Metabolism* 40 (8): 755–61.
- [3] Bradlee M.L., Mustafa J., Singer M.R., Moore L.L. High-Protein Foods and Physical Activity Protect Against Age-Related Muscle Loss and Functional Decline. *J. Gerontol. A Biol. Sci. Med. Sci.* 2017;25 doi: 10.1093/gerona/glx070.
- [4] Bernstein A.M., Sun Q., Hu F.B., Stampfer M.J., Manson J.E., Willett W.C. Major dietary protein sources and risk of coronary heart disease in women. *Circulation* 2010; 122:876–883. doi: 10.1161/CIRCULATIONAHA.109.915165
- [5] Darling AL, Manders RJF, Sahni S, et al. Dietary protein and bone health: a systematic review and meta-analysis. *Am J Clin Nutr.* 2019;110(1):196-218. doi:10.1093/ajcn/nqz118.
- [6] NIN website: <https://nin.res.in/>
- [7] ICMR Website: <https://www.icmr.nic.in/>