

Nutritional Biochemistry: The Heart of Biochemistry in curbing disease

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Introduction

Biochemistry also known as biological chemistry is the detailed study of chemical processes that occurs takes place within & related to living organisms. Biochemistry is the sub discipline of both chemical sciences & biological sciences. Biochemistry is broadly classified into three fields such as Metabolism, Enzymology & Structural Biology. We have witness the fact in the last one and half century that biochemistry became successful in describing life processes & life sciences well in all the three broad fields [1-3]. A very large part of biochemistry deals with the interaction of biological macromolecules that is proteins, carbohydrates, lipids & nucleic acid. These macromolecules provide the basis of life & are crucial for performing all the important functions which is associated with the life. We know that the chemistry of the cell also deals with the interaction of molecules having slight charges & reactions of charged molecules. In the last fifty years biochemists across the globe investigated many diseases & disorders and came to final conclusion that most of the disease & disorder are nothing but simply deficiencies that occurs due to nutritional deficiencies in the body. This led to the development of nutritional biochemistry which was the need of the time. It generally deals with the overall wellness & health of body. In the last fifty years nutritional biochemistry has become one of the main academic foundations, a great discipline that encompasses great array of knowledge of nutrients such as micro nutrients & macro nutrients, physiology of different mammals, health & behavior. It is a sub discipline which is largely made up of concepts, core knowledge, and dietary constituents & their metabolic, physiological & other functions such as epigenetic ones. The most important research in the field of nutritional biochemistry is the proper establishment of best optimised diet, the normal dietary intake for all the micro & macro food components. We can conclude that the nutritional biochemistry is solely derived from the vast knowledge of physical sciences, chemical sciences & biological sciences. We have seen that nutritional biochemistry helps in saving masses, vital for the normal functioning of life. Nutritional Biochemistry is that part of science which deals with other portion of science as well for instance it deals with pharmacology, microbiology, medicines. It is vital these days as all the major disease & disorders of the 21 st century is nothing but due to lack of certain nutrition's or due to heavy intake of certain pollutants which exceeds their normal levels in the human body & cause different disorders & diseases. So, nutritional sciences may be referred as specific sciences which act as an instrument for the assessment & interventions in the treatment of illness, injury or disease condition. In the last three decades nutritional sciences has gained so much importance across the globe & scientific community is delighted to see its great outcome & is expecting to gain more & more knowledge so that certain disorders & diseases that has grabbed whole world can be curbed such as birth defects, diabetes obesity, cardiovascular disease & different types of cancers. Researchers of Japan & United States are currently doing major research to know the connection or the link that is associated with bad nutrition & diseases, in this way an attempt is made to improve public health & to boost the quality of life. Some common strategies used now days is to fortified the grains with folic acid so that the incidence of some common birth defects such as spina bifida doesn't take place. Similarly we see ionization of table salt to curb cretinism, a major developmental

disorder which is associated with severe cognitive & neurological defects in children. These steps of mixing additional nutrients is very helpful in curbing these disorders and has helped in boosting the public health systems in globe. Monetary loss linked with the disorders in now being saved and is used effectively & efficiently by the government for other good purposes & hence economies are becoming good. Currently scientists are paying more close attention to nutritional genomics & metabolomics. Nutritional metabolomics deals with the regulation of metabolic pathways & networks & it uses different analytical methods that deals with human serum & metabolites of urine so that deficiencies, disorders, defects & disorders can be easily detected. Some great universities across the globe are exclusively granting scholarships & grants under different academic & training programs for instance Harvard University, Cornell University, Columbia University [4,5].

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