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**Concept of Nutrigenomics Exists in Unani Medical Philosophy**

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**ABSTRACT**

**Abstract:**The concept of nutrigenomics in medical philosophy has been delineated at length to focus attention the usefulness of diet to ward off malaise and diseases. Attention has been emphasize on nutrigenomic, dimension, background, development, basics and scope for the understanding of the subject matter. As a result the nutrigenomics can be linked with seven fundamental theoretical and functional principles that augments the diet therapy.

**Keywords:** Unani medicine, Essential Causes, Diet- Therapy, Temperament, Organ Therapy

**INTRODUCTION**

Unani medicine is one of the ancient healing systems. Hippocrates (460-377 BC) of Greece is its founder [1]. This Greek science of health emphasizes much on the causes, responsible for every state of the body[ 2].

There are six Essential Causes of health; the Diet is second to the Air. The Diet has been discussed in three folds a) Resources of Diet, b) Diet and Nutrition, c) Diet- therapy. The details of all these give impression about the consciousness of the ancient Unani physician towards “Nutrigenomics”. They were aware that healthy growth and functioning of the body sustains on suitable diet. In accordance to this the physicians had classified the dietary matters on the basis of resources of the diet and the nature of consumers. There are many conditions and restrictions for eatables to use [3].

Now, this dietary science is emerging in the form of Nutrigenomics. It is the study of molecular relation ship in between nutrition and response of genes. Nutrigenomics has a wide scope in future to make personalized dietary advice for health care. Up to what extent Unani medicine deals with the newly emerging concept of nutrigenomics is to be discussed here.

*Nutrigenomics defined as:*

Nutrigenomics is the study of the effects of foods and food constituents on gene expression [4]. Nutrigenomics is a new science and has several different definitions. Nutrigenomics has been defined as the application of high-throughput genomic tools in nutrition research. It can also be seen as research to provide people with methods and tools who are looking for disease preventing and health promoting foods that match their lifestyles, cultures and genetics. Nutritional genomics is a systems approach to understanding the relationship between diet and

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health and will ensure that everyone benefits from the genomic revolution.

*Dimensions:*

It is applying the sciences of genomics, transcriptomics, proteomics, and metabolomics to human nutrition in order to understand the relationship between nutrition and health [5].

*Back Ground:*

Throughout the 20th century, nutritional science focused on finding vitamins and minerals, defining their use and preventing the deficiency diseases that they caused. As the nutrition related health problems of the developed world shifted to overnutrition, obesity and type two diabetes, the focus of modern medicine and of nutritional science changed accordingly.

In order to address the increasing incidence of these diet-related-diseases, the role of diet and nutrition has been and continues to be extensively studied. To prevent the development of disease, nutrition research is investigating how nutrition can optimize and maintain cellular, tissue, organ and whole body homeostasis. This requires understanding how nutrients act at the molecular level. This involves a multitude of nutrient-related interactions at the gene, protein and metabolic levels. As a result, nutrition research has shifted from epidemiology and physiology to molecular biology and genetics and nutrigenomics was born.

*Development:*

The emergence and development of nutrigenomics has been possible due to powerful developments in genetic research. Inter-individual differences in genetics, or genetic variability, which have an effect on metabolism and on phenotypes were recognized early in nutrition research, and such phenotypes were described. With the progress in genetics, biochemical disorders with a high nutritional relevance were linked to a genetic origin. Genetic disorders which cause pathological effects were described. Such genetic disorders include the polymorphism in the

gene for the hormone Leptin which results in gross obesity. Other gene polymorphisms were described with consequences for human nutrition. The folate metabolism is a good example, where a common polymorphism exists for the gene that encodes the methylene-tetrahydro-folate reductase (MTHFR).

*Basics:*

In nutrigenomics, nutrients are seen as signals that tell a specific cell in the body about the diet. The nutrients are detected by a sensor system in the cell. Such a sensory system works like sensory ecology whereby the cell obtains information through the signal, the nutrient, about its environment, which is the diet. The sensory system that interprets information from nutrients about the dietary environment include transcription factors together with many additional proteins. Once the nutrient interacts with such a sensory system, it changes gene, protein expression and metabolite production in accordance with the level of nutrient it senses. As a result, different diets should elicit different patterns of gene and protein expression and metabolite production. Nutrigenomics seeks to describe the patterns of these effects which have been referred to as dietary signatures. Such dietary signatures are examined in specific cells, tissues and organisms and in this way the manner by which nutrition influences homeostasis is investigated. Genes which are affected by differing levels of nutrients need first to be identified and then their regulation is studied. Differences in this regulation as a result of differences in genes between individuals are also studied. It is hoped that by building up knowledge in this area, nutrigenomics will promote an increased understanding of how nutrition influences metabolic pathways and homeostatic control, which will then be used to prevent the development of chronic diet related diseases such as obesity and type two diabetes. Part of the approach of nutrigenomics involves finding markers of the early phase of diet related diseases; this is the phase at which intervention with nutrition can return the patient to health. As nutrigenomics seeks to understand the effect of different genetic predispositions in the development

of such diseases, once a marker has been found and measured in an individual, the extent to which they are susceptible to the development of that disease will be quantified and personalized dietary recommendation can be given for that person. The aims of nutrigenomics also includes being able to demonstrate the effect of bioactive food compounds on health and the effect of health foods on health, which should lead to the development of functional foods that will keep people healthy according to their individual needs.

*Scope:*

Nutrigenomics is a rapidly emerging science still in its beginning stages. It is uncertain whether the tools to study protein expression and metabolite production have been developed to the point as to enable efficient and reliable measurements. Also once such research has been achieved, it will need to be integrated together in order to produce results and dietary recommendations. All of these technologies are still in the process of development.

Nutrigenomics and Unani System of Medicine: Unani system of medicine unfolds the structure and functions of human the body under the subject entitled as Umur-i Tabei'yah (Factors of Physic). There are seven chapters, begin with Arakaan (Elements) followed by Mizaj (Temperament), Akhlat (Humors), Aza (Organs), Arwah (Pneumas), Quwa (Faculties) and Afa'I (Functions)[ 6].

The chapter of Arakaan (Elements) defines about The Unit of the matter by which human body is made of. In other chapters like Mizaj, Aza and Quwa it is mentioned in detail that the primary matter to form a new one comes from the parents and contains all basic characters. Secondary mass development inside the womb and outside depends on the maternal blood and external diet recourses respectively [7].

The chapter of Mizaj or Temperament is most identical in respect of Unani medical doctrine. The basic characters of an individual in accordance to the structure, functions and over all behavior are

termed as Temperament. Every individual inherits the temperament from the parents and has a resemblance to them as well as to other blood fellows. This inherited temperament is marked as Mizaje Khilqui or Congenital Temperament. After the birth this congenital temperament comes under the influence of some extrinsic essential and non-essential factors, Food and Drinks are one of them. When temperament influenced by the extrinsic factors and deviates much from the congenital landmarks, it may be a factor of abnormality [8].

Therefore, every one is naturally directed about what he/ she would has to like or dislike to eat, most of these habits inherited and some appear due to the culture of the community and locality. Unani medicine gives much emphasis on the quantity and quality of foods and drinks as an essential factor causes for a good health. There is a recommendation for suitable diet on the basis of the temperament of a person [9].

As mentioned above in Unani medicine the diet has been discussed in three folds a) Resources of Diet, b) Diet and Nutrition, c) Diet- Therapy. The first and the third i.e. resources of the diet and the diet therapy are based on the concepts, which are expressed today in the sense of Nutrigenomics. To maintain good health Unani medicine suggests taking care of diet. It should be from natural resources, which are found in the surroundings. It helps in matching of the temperament of a person and the diet. Every food does not suit to every one. Allergic and syndrome diseases may arise. To avoid this Parhez (diet restrictions) is recommended [10]. In case of some diseases, which occur in the result of metabolic disorders or mutation, treatment by dietary alterations is applied, as the diet therapy. In this exercise those nutritive agents are prescribed in the diet, which are usually not in practice in respects of resources, quality and quantity. Whatever diet is prescribed to heal, is termed Ghizae Dawai [11]. The concept of nutrigenomics in Unani medicine becomes more palpable by the sense of Ilaj bil azwa (Organ Therapy), a sub division of diet therapy. It

is well documented that, if an organ like brain, kidney, liver, testicles etc becomes weaken then the matching organ from the animal could be taken in diet, It gives strength to the affected one [12]. On the same lines some drugs are prescribed. Qurse Jauhare Hkusiaah (a tablet formulation) is recommended to cure male sterility. This formulation is made of he goat's testicle as a chief ingredient, to give strength or normalize patient's testicles. Some vegetables of physical resemblance with body organs as Akhrot (nut), its physical appearance similitude's with the anatomy of brain, it is mentioned a suitable diet to enhance the brain functioning [13]. Unani medicine is also sensitive about geographical, environmental as well ecological influences on the living substances. Dietary resources, either plant or animal origin, have no exemption. There are principles about quality of diet in respect of the nature on an individual. There is a holistic approach to recommend the diet, extrinsic and intrinsic factors of a breed have to be kept in mind, and that should be in an association. It is well stated that characters of a breed come under genomics [14].

### CONCLUSION

In short it may be declared that, the core concept of Unani medicine al-mizaj or temperament is a mirror of the current studies of genomics. In Unani biology every living substance has its own temperament and differs with each other, even the difference exists in inbreed. The same thing is with nutrients, which is being revealed now by Nutrigenomics. Nutrigenomics has a wide scope in future to make personalized dietary advice for health care and this is in practice of Unani medicine for centuries.

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