



Review Article

Volume 12 Issue 3

May-June 2023

## NUTRACEUTICALS AND ITS IMPORTANCE IN UNANI MEDICINE- A REVIEW

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### ABSTRACT

Diet plays important role both as nutritive and therapeutic effect which has been modified to achieve maximum health benefits in the form of functional foods and nutraceuticals. Ancient unani physician gave much emphasis on diet for prevention of health and to treat any disease. The *makool va mashroob* (food and drink) is one of the vital factors among the six essentials pre-requisites (Asbab-e- Sitta-e- Zarooriya) that have been laid down for the promotion of health and prevention of disease. Among them food is one of the pre-requisites. The *Ilaj bil ghiza* is a distinctive non-medicinal therapy in which the treatment is done by modulation in dietary habits. Population demographics, socio-economic changes, increase in life expectancy, and increase in cost of health care have attracted researchers to conduct studies on how these changes can be managed efficiently. Functional foods and nutraceuticals have been identified as one of the leading food categories where research and development efforts are concentrated. In unani system of medicine various food which have been termed as *ghiza dawai* and *dawa ghizai* which adds nutritional and therapeutic effect, one which have more therapeutic effect and less nutritive effect can be termed as nutraceuticals.

**KEYWORDS:** Nutraceuticals, Diet, Ilaj- bil -ghiza, Asbab-e-Sitta-e-Zaroriayah,

## **INTRODUCTION**

Since old times, people have been aware that a poor or imbalanced diet can cause various diseases.<sup>1</sup> In present scenario, poor dietary habits cause many life style disorders such as hypertension, dyslipidaemia, coronary artery diseases, obesity, diabetes, indigestion, liver diseases, cancer etc. Thus, to be realistic within these life concepts of change and balance, our study of food, nutrition and healthcare must focus on health promotion. A well-balanced diet with adequate intake of all the nutrients is necessary for good nutrition as well as for maintaining health and to prevent diseases.

Dietotherapy has a long history, it stems from the Zhou Dynasty, 1000BC, Zhang Ji, who was a renowned physician in the Han dynasty, realized the action of dietotherapy for the management of different diseases.<sup>2</sup> In Unani system of medicine, the role of diets and drinks for health issues has been considered very much significant since the days of Hippocrates (460-370 BC)<sup>3</sup>.

The concept of functional foods originated in Japan in the mid-1980s when the Japanese government commenced providing financial assistance to research programs focused on the capability of certain foods to influence physiological functions<sup>4</sup>. Nutraceuticals is a term derived from 'nutrition' and 'pharmaceuticals'<sup>5</sup>. It was coined in 1989 by the founder of Foundation for Innovation in Medicine, Dr. Stephen De Felice.

The aim of this review is to emphasize the Unani concept of *Ghiza* (Diet) with special reference to its nutraceuticals and functional perspective in importance of *Ilaj bil ghiza* (dietotherapy) and its preventive and therapeutic approach in various disorders.

## **Functional foods and Nutraceuticals**

Functional foods and conventional foods are similar in appearance but the difference is functional foods have physiological benefits apart from its basic nutritional functional food reduce the risk of chronic disease conditions. Another confusing term often used interchangeably with functional food is nutraceuticals. Nutraceuticals is a term derived from 'nutrition' and 'pharmaceuticals'<sup>5</sup>. Nutraceuticals is defined as 'any substance that is a food or a part of a food and provides medical or health benefits, including the prevention and

treatment of disease'<sup>6</sup>. Just like functional foods, nutraceuticals are defined differently in many countries. According to Trottier when functional food aids in the prevention and/or treatment of diseases and/or disorders other than anaemia, it is called a nutraceutical.<sup>7</sup> In Canada and US, nutraceuticals is defined as 'a product produced from foods but sold in pills, powders, and other medicinal forms not generally associated with food <sup>8</sup>. Hence, the simplest difference between functional foods and nutraceuticals is that a functional food is essentially a food, but a nutraceutical is an isolated or concentrated form used as medicine to improve health, impede aging, prevent chronic diseases, and increase life expectancy.<sup>9</sup>

Herbs play a significant role in the maintenance of the quality of human life through the abundant source of bio-constituents. The herbal bioactive constituents are an essential category of nutraceuticals which have plenty of health promoting medicinal properties in addition to minerals, vitamins and other active compounds.

These herbal bioactive are most times commonly used by people who seek conventional health care as a food supplement. In this regard, it is seen as using herbs as nutraceutical<sup>10</sup>. Example of herbs used as nutraceuticals are presented in Table.

#### **The common herbals used as Nutraceuticals<sup>10</sup>**

	<b>Biological Name</b>	<b>Common Name</b>	<b>Part of the plant</b>	<b>Bioactive compounds</b>	<b>Benefits to health</b>
01	<i>Zingiber officinale</i> (Zingiberaceae.)	Ginger	Rhizomes	Zingiberene and Gingerols	Hyperglycemia, chronic bronchitis, stimulant and throat ache
02	<i>Panax ginseng</i> (Araliaceae)	Ginseng	Root	Ginsenosides and Panaxosides	Stimulating immune and nervous system
03	<i>Allium sativum</i> (Liliaceae)	Garlic	Bulbs	Alliin and Allicin	Antibacterial, anti-inflammatory,

					antifungal, antigout, antithrombotic, hypotensive, antihyperlipidemic
04	<i>Aloe barbadensis</i> Mill. ( <i>Liliaceae</i> )	<i>Aloe vera</i>	Gel	Aloins and Aloesin	Dilates capillaries, anti-inflammatory, emollient, wound healing properties
05	<i>Curcuma Longa</i> ( <i>Zingiberaceae</i> )	Turmeric	Rhizome	Curcumin	Anticancer, anti-inflammatory, antiseptic, antiarthritic.
06	<i>Allium cepa</i> Linn. ( <i>Liliaceae</i> )	Onion	Bulb	Allicin and alliin	Hypoglycemic activity, antibiotic and antiatherosclerosis
07	<i>Ginkgo biloba</i> ( <i>Ginkgoaceae</i> )	Maiden Hair Tree	Leaves	Ginkgolide and Bilobalide	Antioxidant, memory enhancer, increased peripheral blood flow, treatment of post-thrombotic syndrome
08	<i>Cassia angustifolia</i> ( <i>Leguminosae</i> )	Senna	Leaves	Sennosides	Purgative
09	<i>Echinacea purpurea</i> ( <i>Asteraceae</i> )	Echinacea	Leaves	Alkylamide and Echinacoside	Antiviral, anti-inflammatory and

					immunomodulator
10	<i>Glycyrrhiza glabra</i> ( <i>leguminosae</i> )	Liquorice	Root	Glycyrrhizin and Liquirtin	Anti-inflammatory and anti-allergic
11	<i>Salix alba</i> <i>L. (Salicaceae)</i> <i>Salix alba</i>	White Willow	Bark	Salicin	Antiinflammatory, analgesic, antipyretic, astringent, treatment of rheumatic and arthritic
12	<i>Valerianaofficinalis</i> <i>Linn.</i> ( <i>Valerianaceae</i> )	Valeriana	Root	Valerenic acid and valerate	Menstrual pain, intestinal cramps, bronchial spasm, tranquillizer, migraine
13	<i>Aeglemarmelos</i> <i>Corr.</i> ( <i>Rutaceae</i> )	Bael	Unripe Fruits	Marmelosin	Treatment of diarrhea and dysentery, digestive, appetizer.

**Concept of Ghiza (Diet) and understanding the concepts of Nutraceuticals in Unani medicine:**

The concept of Nutraceuticals went back as far as 3000 years ago. Hippocrates (460–377 B.C) Stated 'let food be the medicine and medicine be thy food'.<sup>11</sup>

The word diet is originated from the Greek word *diaita* via *diaitan* means way of living. The substances which can become the part of the cells, tissue or organ of the human body and provide *badal ma tahallul* (replacement of cellular organelles). They contain carbohydrates,

proteins, lipids, vitamins, minerals etc <sup>12-13</sup> Therefore, a clear difference has been given in Unani classical text between drug and diet. Diet means, when the substances administered into the body are affected by body (metabolism) and breaks into constituents. Their constituents are able to give replacement of different part of body such as carbohydrates, protein, fat, etc.

Four core modes of treatment are usually employed such as *Ilaj bit tadbeer*, *Ilaj bil ghiza*, *Ilaj bid dawa* and *Ilaj bil yad* <sup>14-15</sup> The *ilaj bil ghiza* is a distinctive non-medicinal therapy in which the treatment is done by modulation in dietary habits, i.e. fasting, use of food stuff in more quantity having less nutritional value or less quantity having more nutrients or vice versa.<sup>16</sup>

On the other hand, drug is the substance which acts due to its quality (*Kaifiyat*) and establishes its effect, finally it will be eliminated by the body and it does not become a part of body, such as Mako (*Solanum nigrum*), Kasni (*Cichorium intybus*), Aftimoon (*Cuscuta reflexa*), Afsanteen (*Artemesia absinthium*) etc. due to its anti-inflammatory property reduce inflammation and then eliminated by the body. <sup>(12-14)</sup>

Whereas diet such as wheat, rice, egg and other protein, fat etc. provide routine nutrition and energy, becomes part of body and only unabsorbed part is eliminated from body. There are various methods of classification of diet according to Unani principle of treatment. The following classification is based on the nutritional and medicinal value of diet (a) *Ghiza Dawai* (diet cum drug) (b) *Dawa Ghizai* (drug cum diet).

***Ghiza-i-Dawai (Diet cum drug):*** The substances, which are primarily used as diet but have some therapeutic properties. The dietary constituents are more in such type of substances as compared to drug constituents. e.g., bottle guard, pumpkin, cucumber, musk melon, water melon etc.

***Dawa-i-Ghizai (Drug cum diet):*** The substances, which are primarily used as drugs but have some nutritional values. e.g., mint, pepper, cardamom, ginger etc.

*Dawa Ghizai* is the substances, which are mainly used as drug but they contain dietary constituents, such as Amla (*Phyllanthus emblica*), honey, Pudina (*Mentha arvensis*), Hulba (*Trigonella foenum-graecum*), Lettuce (*Lactuca sativa*) etc.

In short, in *Ghiza Dawai* nutritional value is more than the therapeutic value where as in *Dawa Ghizai* therapeutic value is more.

### **Modified diet (Nutraceuticals) for specific indications<sup>17,18,19</sup>**

Ma-us-Sha'eer	Fever, Acute infections, Tuberculosis, Diabetes mellitus.
Ma-ul Asl	Cerebro-vascular disorders, Paralysis, Facial palsy, Fever, Gastric diseases, Dry cough.
Ma-ul-Laham	Protein energy malnutrition, tuberculosis, cachexia, anaemia, cerebral disorders, cardiac diseases.
Ma-ul-Jubn	Melancholia, depression, anxiety, migraine, burning micturition, renal failure, ascitis, jaundice.
Ma-ul-Fawakah & Ma-ul-Buqool	Vitamin deficiency, constipation, anaemia, general body weakness, cardiovascular diseases.
Sikanjaben	Vomiting, hepatitis, jaundice, gastric disturbances, burning micturition, UTI.
Aabkama	Gastric disorders.
Sikbaj	Vomiting, jaundice, hepatitis, ascites.
Murabba	Cerebral, cardiac and gastric disorders.
Gulqand	Constipation, gastric diseases, liver diseases, cerebral disorders, cardiac diseases.
Halwa	General body weakness, cachexia.
Falooda	General body weakness.
Hareesa	Chronic fever, anaemia, tuberculosis.
Kavameekh	Loss of appetite.
Rub	Gastric, liver, brain and cardiac disorders.
Khageena	Sexual dysfunctions.
Sharbat	Nausea and vomiting, gastritis, hepatitis, jaundice and fever.
Sirka	Facial palsy, paralysis, epilepsy, headache and sciatica, cardiac, brain tonic, stomach-ache.

### **CONCLUSION**

The extensive literature review of Unani medicine has pointed out that the ancient Unani physicians were completely aware about the concept and importance of food and drink. The dietotherapy play a vital role for prevention and treatment of several body ailments. It also

minimizes the duration of treatment and improves the tolerance of drug by modification in diets. The potential health benefits of nutraceuticals and functional foods are now widely understood in prevention of risk of developing chronic diseases and an improvement in overall health. Hence, there is a need for solid information to enlighten the health professionals and the public in this regard.

Unani medicine clear-cut definition has been given on the basis of nutritional value and therapeutic action of the foods in the prevention and treatment of diseases. Long term clinical studies are required to scientifically validate the nutraceuticals in various medical conditions. State is not far where nutraceuticals will be our preferred prescription of tomorrow.

### **ACKNOWLEDGEMENT**

I gratefully acknowledge the faculty of Post Graduate Department of Ilmus-Saidla, Ayurvedic & Unani Tibbia College, Karol Bagh, New Delhi, for their valuable cooperation and support.

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