

Significance of Ayurvedic Dietary Regulations for Prevention of Metabolic Disorders

Nazmul Huda and Amrita Kumar Sarker

Department of Ayurvedic Medicine, Government Unani and Ayurvedic Medical College, Mirpur 13, Bangladesh

Corresponding author: Nazmul Huda, Department of Ayurvedic Medicine, Government Unani and Ayurvedic Medical College, Bangladesh, Tel: 88-01712720025; E-mail: mdnazmulhudabd@yahoo.com

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Abstract

Metabolic syndrome is a group of disorders that includes abdominal obesity, diabetes, hypertension, and elevated cholesterol. Nowadays it is a worldwide health problem. Approximately 20-30% of the adult populations are affected by this problem. Gradually this number is increasing because of poor lifestyles especially regarding dietary pattern, physical inactivity, stressful life and rapid urbanization. Often these conditions are managed by pharmacological treatment; however, this is not enough in controlling this syndrome. Thus, Ayurveda can play a significant role to prevent this syndrome by following particular conducts like dietary regulation, daily regimen, seasonal regimen, pancha-karma and yoga therapy. Among them dietary regulation is very important factor for the prevention of metabolic syndrome and that is more emphasized in different Ayurvedic classics in many years ago.

Keywords: Metabolic syndrome; Ayurveda; Dosa

Introduction

The metabolic syndrome is a co-occurrence of several known cardiovascular risk factors, including insulin resistance, obesity, atherogenic dyslipidemia and hypertension [1]. This syndrome is linked with multiple risk factors and that are responsible for heart disease, stroke and diabetes. The metabolic syndrome is caused by overweight, physical inactivity, poor eating habit and chronic stressful life. The genetic predisposition and aging are also important factors for the causation of this syndrome. Overweight and physical inactivity cause of insulin resistance in body and play a significant role in the pathogenesis of obesity-related insulin resistance. High dietary fat intake is associated with an oxidative stress and an activation of the pro-inflammatory transcription factor [2]. The genetic predisposition is responsible for defective insulin secretion when it combines with insulin resistance this can raise the abnormal plasma glucose levels. Chronic stress leads to physical inactivity, abnormal dietary habit and self-limiting care and these are the

predisposition to metabolic syndrome. In 21st century, the metabolic syndrome is very rapidly spreading in all over the world [3]. Now-a-days it is a burning issue in public health context. Worldwide, approximately 20-30% of the adult populations are affected by this syndrome [4]. Among them the prevalence of the metabolic syndrome is rapidly increasing in South Asian countries and leads to increased mortality and morbidity due to cardiovascular diseases and type 2 diabetes [5]. Around about one third of urban South Asians have the evidence of the metabolic syndrome due to rapid urbanization and modifying lifestyle that includes faulty food habit, physical inactivity and stressful life [6]. Ayurveda explained a significant solution for the prevention of metabolic syndrome by following appropriate Ayurvedic dietary regulation, daily regimen, seasonal regimen, panchakarma and yoga therapy.

Role of diet in Ayurvedic medicine

Diet plays an important part for the development of metabolic syndrome [7]. Improper dietary habits specially over eating, excessive heavy diet, excessive meat and fish, sugarcanes preparations, milk and its preparations increase the *kapha dosha* in body. Therefore, this *kapha dosha* produce excess tissue, mucous, fat and that helps to retain the fluid in body. Excess *kapha dosha* also causes the accumulation of fat that effects on elevated cholesterol and triglycerides level in blood [8]. The imbalance *kapha dosha* also slows down the metabolic power as a result disturbs in metabolism and ultimately leads to weight gain. So Ayurveda considers the diet as medicine and is classified according to their taste, habitat and pattern of metabolism [9]. As the metabolic rate is varies in different individuals so suitable selection of diet is very important for blanching state of human. According to Ayurveda the human body is ruled by three fundamental life-forces; these are called biological humors of human body. The three humors are *Vata*, *Pitta* and *Kapha*. These are often translated as "wind", "bile" and "phlegm". *Vata* is also often called the biological air-humor, *pitta* the biological fire-humor and *kapha* the biological water-humor. These all three humors manifest in the body by maintaining and controlling the chemical, hormonal and electrical functions of the human body. The rasa or taste of diet depends on the predominance of particular humor for keeping the body free from diseases

Dietary principles in Ayurveda

Diet reflects as vital role to supply nutrient ions and promotes healthy life. In Ayurveda diet is characterized according to their action on the individual and decides by their taste, potency, post digestive effect and pharmacological effect. Particularly taste plays a major task in proper digestion. Ayurveda consider that diet contains six types of basic tastes viz. sweet, sour, salt, pungent, bitter, astringent and each taste has predominance of particular bio-humors (*vata*, *pitta* and *kapha*) and tissue function. So diet is classified on the basis of its properties and its effect on the digestion.

Moreover, the quantity of diet, time or season of intake, mode of preparation of diet, habitat of diet and digestive power of individuals also play a significant role in the acceptability of wholesome diet. In Ayurveda, diet classified in many categories. On the basis of psychopharmacological effects, diet is classified into *satvik*, *rajasik* and *tamasik* categories. *Satvik* diet is easily digestible, helps to build the

immunity, rapid healing response and brings harmony and balance to one's mind. The examples of *satvik* diet are cereals (red rice), fresh fruits, vegetables, cow's milk, salads, herbal tea, nuts, honey, jaggery and freshly cooked food. *Rajasik* diet is oily, aromatic, spicy and attractive to taste. This brings energy and makes more angriness. This food includes non-vegetarian food like meat, fish eggs, chicken, canned food, ice-cream, sugar, all type of pulses and salted foods. *Tamasik* diet is all types of foods that are not fresh, overcooked, stale food and processed food like frozen food and micro-waved food etc [10]. This is also not good for health. So *satvik* diet is supportive for maintenance of positive health and mind.

Ayurvedic dietary methods: The eight factors like *prakrti* (qualitative characteristics of diet) *karana* (processing of diet), *samyoga* (mixing/combination of diet), *rashi* (quantity of diet), *desha* (habitat of diet), *kala* (time as per age, season and condition), *upayoga samstha* (variable digestibility of different diet) *upayokta* (the person who takes the diet) should be considered before taking the food.

Table 1: Balancing dietary taste in relation to biological body humors.

Predominance biological humors (doshas)	Controlling/ balancing tastes
Vata (Air-humor)	Sweet, Sour and Salt
Pitta (Fire-humor)	Sweet, Bitter, Astringent
Kapha (Water-humor)	Pungent, Bitter, Astringent

Because it facilitates the proper digestion, assimilation and nourishment to the body [11]. Ayurveda recommend taking balanced food which contains six types tastes like sweet, sour, saline, pungent, bitter and astringent (**Table 1**) [12]. Ayurveda also mentioned some theories during taking of food. Food should take in hungry state and regular intervals. The speed of taking should not so fast and quantity of diet should be sufficient and that depends on the digestive strength of individuals. Having water in between food is advisable, rather than before or after food. At the end of diet, should take sweet food including milk, ghee, rice, wheat and other grains and legumes, as well as sweet fruits, dates, honey, jaggery and

sugar for balancing the pitta because pitta is responsible for digestion in human body. Furthermore, sweet taste nourishes and invigorates the mind, relieves hunger and thirst, increases tissues and improves the immune system.

Diet may prevent the metabolic syndrome: As the kapha is the main factor for the creation of metabolic syndrome so kapha aggravating taste such as madhura (sweet), amla (sour) and lavana (salt) should be avoid and kapha alleviating taste like katu (pungent), tikta (bitter), kashaya (astringent) should be take daily (**Table 2**).

Table 2: For balancing the kapha dosa the following foods are suggested.

Groups	Name of food
Grains	Red rice, Wheat, barley, millet, corn, oats.
Vegetables	All green leafy vegetables especially bitter gourd, fenugreek, <i>pointed gourd</i> , carrot, beets, cabbage, cauliflower, white potatoes, green beans, peas and tender radish.
Legumes	Mung, lentils and beans.
Fruits	Papaya, guava, apples, pears, figs, pomegranate and dry fruits (sulfur free).
Fish	Small fish and sea fish.
Meat	Chicken.
Dairy and Beverages	Organic milk (boiled and served hot), herbal tea, spice or cinnamon tea.
Spices	Ginger, cinnamon, black pepper, cumin, mustard seeds, ajwain, saffron, hing, cardamom, cloves, fennel, coriander, mint, garlic, nutmeg, tamarind, sea salt, lemon juice.

Nut and seeds	Small portions of sunflower, sesame and pumpkin seeds and walnuts.
Oils	Mustard, corn, sesame, olive. Ghee in small amounts.
Sweeteners	Raw honey which is not baked or cooked and jaggery.

Conclusion

Diet is an important characteristic for healthy and unhealthy status. Hopefully, the above Ayurvedic dietary regulation and food chart may help the followers for the prevention of metabolic syndrome.

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