

YAVA (BARLEY) – A KEY TO THE LIFE STYLE DISORDERS

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Received: 20-03-2013; Revised: 05-05-2013; Accepted: 10-05-2013

Abstract

Yava (*Hordeum vulgare*) is one of the most ancient cereals in Ayurveda. The use of yava for food and medicinal purposes dates to antiquity. In Ayurveda the uses of yava are described for religious ceremony, dietary and medicinal preparation and as a pathya diet in various diseases including life style disorders. There is detailed description of Yava in various Samhitas and Nighantu under dhanya varga. Yava is an efficient food to prevent and cure many life style disorders. Lifestyle disorders are a big problem for our society today. Such diseases mainly result from life style related factors such as unhealthy diet, bad food habits, lack of physical activity etc. This article presents information about yava and its health benefits in preventing life style disorders.

Key words: Yava; Barley; Ayurveda; Ahara; life style disorders; Diet.

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Cite This Article

Rahul Jain, Praveen Raghuwanshi, Satish B Patil. Yava (Barley) – A key to the life style disorders. *Ayurpharm Int J Ayur Alli Sci.* 2013;2(5):138-143.

INTRODUCTION

Ayurveda is not only a system of medicine but is a comprehensive science of life. As such it is not concerned only to the cure the diseases but also aims to relieve the humanity from all categories of miseries like physical, mental, intellectual and spiritual. The main aim of Ayurveda is Swasthasya Swasthya rakshanam which means to maintain the health of the healthy person and Aturasya vikara prashamanam cha means to cure the diseases of the diseased person.^[1] This is a very important aspect of preventive medicine as mentioned in Ayurveda classics. The present era has shown a significant change in the entire thinking about the problems of health and disease towards its preventive measures. Ayurvedic classics give special emphasis on three important values which have been considered as the important conducive factors for maintenance of life and health. This important triune consists of Ahara (food), Nidra (Sleep) and Brahmacharya (Good conduct). These three have been considered as Upastambha or the basis of life and health.^[2] Ahara (diet) has been considered as the first one which shows its importance. Ayurveda lays great deal of emphasis upon proper diet for the treatment of patients. For each and every disease wholesome and unwholesome food ingredients have been described. The different Acharyas of Ayurveda presented their views regarding significance of ahara.

Acharya Caraka discussed about ahara in Swastha catuska, Annapana catuska, and at many more places in different context, which shows the importance of ahara. Acharya classify ahara in 12 vargas in Annapana vidhi Adhyaya of Sutrasthana, Yava (barley) has been discussed under the sukadhanya varga of these classification.^[3]

Life style disorders are due to Poor life-style which includes, poor diet, lack of exercise, smoking, excess alcohol, poor sleep, stress due

to heavy workload. Several factors are resulting in the increasing burden of lifestyle disease which includes longer average life span, increasing tobacco consumption, decreasing physical activity and increased consumption of unhealthy food. In India, rapid urbanization and globalization mainly contribute towards increased number of people suffering from life-style disorders.^[4] The urban peoples are having less physically active life-style, more exposure to the products and technologies that could be unhealthy for them. Modern science through improved sanitation, vaccination, antibiotics, and medical attention eliminated the threat of death from most infectious diseases. So, now a days the death from lifestyle diseases like heart disease and cancer are the primary causes of death. In India the situation is quiet alarming. The disease profile is changing rapidly. The World Health Organization (WHO) has identified India as one of the nations that is going to have most of the lifestyle disorders in the near future. Now-a-days, not only the lifestyle disorders are becoming more common, but they are also affecting younger population. According to WHO report (2002), cardiovascular diseases will be the largest cause of death and disability in India by 2020. It is estimated that the overall prevalence of diabetes, hypertension, ischemic heart diseases (IHD) and stroke is 62.47, 159.46, 37.0 and 1.54 respectively per 1000 population of India.^[5]

As per Ayurvedic view, life style disorder such as Diabetes, obesity, Heart disease can be included under Santarpanjanya Vyadhi (overnutrition disease).^[6]

Description of Yava in Ayurvedic Literature

Sanskrit name: Yava (Barley)

Botanical Name: *Hordeum vulgare* Linn.

Family: Poaceae

Synonyms

Medhya, Sitsuta, Divya, Dhanyaraja, Pavitradhanya, Akshta, Tikshna^[7]

Properties

Rasa: Kashaya, Madhura

Guna: Rukshna, Laghu

Virya: Sita

Vipaka: Katu

Doshakarma: Kaphapittahara^[8]

Yava (barley) is strength promoting because it clarifies obstruction to channels of circulation or its specific action. The use of barley for food and medicinal purposes dates to antiquity. Many claims have been made regarding the health benefits of Yava (barley) and some of suggested benefits including prevention of life style disorders. However there are a few scientific studies supporting these claims. Barley is one of the most fundamental plants in human nutrition. It is the fourth most important cereal crop in the world after the wheat, maize, and rice.^[9] Yava is the most ancient cereal in Ayurveda. In Ayurveda the uses of yava is menyioned in religious ceremony, dietary and medicinal preparation and as a pathya diet in various diseases. There is detailed description of Yava in various Samhitas and Nigantu under dhanya varga. In charaka Samhita, yava is mentioned as a daily indicated diet.^[10] Yava is an efficient food to prevent and cure many life style disorders. Even modern researches support the view of acharyas about Yava. Various innovative preparations can be made and presented to the people in an attractive way for the benefit of the society. Barley contains antioxidant like tocopherols, tocotrienols, vitamin E, lunasin a cancer preventive peptide, soluble fiber, beta glucan etc. it is help in management of various life style diseases such as obesity, diabetes, hypertension, hypercholesterolemia, cardiovascular disease, carcinoma etc. Barley grass

also contains chlorophyll, which has been studied for its potentials in stimulating tissue growth and stimulating red blood cell in connection with blood supply. And chlorophyll may form complexes with toxins, so barley should be used regularly to prevent and combat disease. Barley is low in calories, has high fibre and protein content. It is alkaline and reduces acidity in the body. It is ideal and easily digestible food for children, and elderly people. It regulates blood sugar, prevents coronary heart diseases and controls cholesterol level. High fibre helps remove toxins from kidney, reduces constipation, reduces inflammation in arthritis, makes bones healthy, prevents osteoporosis, improves digestive system, and prevents colon cancer. Barley water has antioxidants which prevent cell damage from free radicals, therefore improve immunity, fight infection, intestinal infection and prevent ageing process. It is easily digested and helps with digestion of food. It improves immunity. Researchers at the University of Wisconsin believe that the barley is rich in Vitamin E. It is said to contribute to human health by inhibiting the production of cholesterol. They say it is especially good for lowering low-density lipoprotein (LDL) cholesterol. Barley contains three times more of the cholesterol-reducing property beta-glucan than oats.^[11]

Table 1: Nutritive values of barley^[12]

Sl.No.	Nutritional value	Content in 100 g
1	Protein	9.9 g
2	Carbohydrate	77.7 g
3	Fats	1.2 g
4	Energy	352 kcal
5	Calcium	29.0 mg
6	Phosphorous	221 mg
7	Vitamin A	10 mg
8	Thiamine	0.2 mg
9	Riboflavin	0.1 mg
10	Niacin	4.6 mg
11	Iron	2.5 mg
12	Zink	2.1 mg
13	Fiber (/ 200g)	13.60 g
14	Selenium (/200 g)	36.40 mcg
15	Tryptophan (/200 g)	0.12 g

In Ayurveda, life style disorders such as Diabetes, obesity, hypercholestraemia etc can be included under Santarpanjanya vyadhi (over nutrition disease) yava and yavak (small variety of *Hordeum vulgare*) as food followed by honey water is indicated.^[13]

Yava is used as Pathya diet in Prameha (Diabetes), Sthoulya (Obesity), Hridroga (Heart diseases) in Ayurvedic classics.

Premeha (Diabetes)

1. Mantha (flour of different types of corn mixed with water), kashaya (decoction), barely powder, linctus prepared of yava and other light-eatables; Yavaudana (cooked yava) without adding any unctuous articles, vatya (yava-porridge) saktu (roasted corn flour) and apupa (pan-cakes) mixed with the meat-soup of gallinaceous and pecker birds and animals inhabiting arid land.^[14]
2. Yava should be one of the principle ingredients of food for the patient suffering from prameha. The patient suffering from kaphaja prameha should take eatables prepared of yava mixed with honey. Yava soaked in the decoction of triphala and kept overnight should be mixed with honey. It is a refreshing (tarpana) diet. It should be taken by the patient suffering from prameha regularly to overcome the disease.^[15]
3. Various eatables prepared from the yava or bamboo seed or wheat previously eaten by asses, horses, cows, swans and deer and collected from their dung should be given to the patient suffering from prameha.^[16]
4. Persons habitually taking roasted yava, dry corn-flour, mudga (*Phaseolus aureus* Linn.) and amalaka (*Emblica officinalis*) do not suffer from prameha, svitra (leucoderma), kricchramutrata (Dysuria) and kaphaja kustha (obstinate).^[17]

5. Prameha patient should take food prepared from old Sali (*Oryza sativa* Linn.), swastika (A variety of rice), yava, godhuma (*Triticum sativum*), kodrava (*Paspalum scrobiculatum*) or uddalaka (*Paspalum scrobiculatum*) etc. along with yusa of canaka (*Cicer arietinum*), adhaki (*Cajanus indicus*), kulattha (*Dolichos biflorus*) and mudga (*Phaseolus aureus* Linn.).^[18]
6. Foods and drinks should be prepared from either yava or godhuma which have been soaked in the decoction of indicated drugs in prameha chikitsa.^[19]

Sthoulya (Overweight/Obesity)

1. Intake of priyangu (*Callicarpa macrophylla*), syamaka (*Setaria italica*), yavaka (*Hordeum vulgare*), yava, kodrava, mudga, kulattha, mudgaka (*Phaseolus aureus*), adhaki (*Cajanus indicus*) along with patola (*Trichosanthes dioica*) and amalaka as food, followed by honey water is indicated in overweight / obesity.^[20]
2. Individuals desirous of reducing over corpulence (santarpanjanya roga) should take recourse to habitual exercise, intake of food like yava and wheat only after the digestion of the previous meal.^[21]
3. Yava and Amalaki churna is best to cure obesity.^[22]

Hridroga (Heart disorders)

1. Edibles prepared of Yava mixed with Vidanga (*Embelia ribes*) are indicated in krimijahdroga (Heart disease due to worm manifestation).
2. Patient should consume food prepared from yava along with soup of kulattha and meat of animals of desert like region.^[23]

Modern researcher has shown the barley β -glucan reduces the cholesterol and coronary

heart disease risk and how does β -glucan lower serum cholesterol level. Yava (*Hordeum vulgare*) has been proven to reduce cholesterol and can be used as a weight loss supplement. β -glucan is the oat or barley component primarily responsible for the cholesterol-lowering effect. Beta-fiber is produced from whole grain barley flour by enzymatic digestion of the starch and partial enzymatic breakdown of the β -glucan. There are several ways in which this can happen. First, β -glucan may reduce or suppress the uptake of dietary cholesterol. This could happen by retaining cholesterol in the viscous, gel-like medium, or by interfering with micelle formation, i.e. preventing the formation of the lipoproteins required for lipid transport. Secondly, soluble fibers may reduce the hepatic cholesterol pool. Cholesterol absorption requires micelles formed from bile acids. The liver synthesizes these bile acids from cholesterol and releases them into the small intestine. Thirdly, soluble fiber may prevent cholesterol biosynthesis in the liver by interfering with the activity of a key enzyme, 3-hydroxy,3-methylglutaryl coenzyme A (HMG CoA) reductase. This can happen in one of two ways. Elevated insulin levels stimulate HMG CoA reductase activity, but soluble fibers slow glucose absorption and therefore insulin secretion. Secondly, propionic acid, one of the products of bacterial fermentation, has been shown to inhibit HMG CoA reductase activity. In a clinical study involving men with high LDL and total blood cholesterol levels, taking 15 g of barley grass extract daily significantly lowered cholesterol levels. In addition, HDL, which is commonly referred to as healthy or good cholesterol, was increased by taking barley grass extract.^[24]

CONCLUSION

It can be concluded that present day life style disorders is a very serious problem in our society. Yava is most ancient cereal with various active principles and properties such

as vitamins, minerals, amino acids, antioxidant, β -glucan etc have been used by the physicians in the form of mainly pathya diet, since ancient times to treat a various diseases of human. Modern science states that so much carbohydrate, fat, protein, vitamins and minerals are required for a well- balanced diet. So according to Ayurveda, Yava is a well-balanced diet and efficient food to manage the life style disorders. We need to analyze the active ingredients of barley for the clinical study on various diseases. Hence it is advised that Yava (barley) should be used as food & medicinal preparation in any form in managing the life style disorders (Santarpanjanya diseases) mainly Diabetes, Hypercholestraemia, Obesity.

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Source of Support: Nil

Conflict of Interest: None Declared