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Shrianna as Millet: A Sattvic superfood for holistic health in Ayurveda

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ABSTRACT

Millets are referred as 'Shrianna' nowadays. From the ancient period millets are being used in India as a prime food. The United Nations General Assembly (UNGA) approved the International Year of Millets (IYM) 2023, which was proposed and supported by the Government of India. India hopes to establish itself as the "Global Hub for Millets" by boosting farmers' incomes, creating livelihoods, and assuring the security of food and nutrition. The IYM will be observed globally. According to Ayurveda, millets are among the most important cereals for human nutrition. Millets are described with their descriptions, together with *Gunas* (properties) and *Karmas* (mode of action) in Ayurveda literature broadly.

Key words: Shrianna, Millets, Ayurveda

INTRODUCTION

Millets were a mainstay in India for many years, but during the green revolution [GR], the focus changed to higher food grain production & productivity using high yielding varieties of wheat & rice in the specified GR areas. As a result, millets were gradually pushed to the side and marginalised. India produces 20% of the millet consumed worldwide and 80% of it in Asia. India allocated cash for the Millet Research Institute in the 2023-24 Union Budget.

When India's Finance Minister Nirmala Sitharaman announced the Union Budget in February 2023, she

referred to millets as "Shrianna" or the best of all grains. Her rebranding of millets - often derogatorily referred to as the 'poor man's grain' and listed as a neglected and underutilised crop species not long ago - was accompanied by the promise of government funding for the Hyderabad-based Indian Institute of Millet Research (IIMR), which was established in 1958. Sitharaman stated that IIMR will develop into a centre of excellence and a global powerhouse for millet research and development. The UN's designation of 2023 as the International Year of Millets is related to this and other initiatives aimed at promoting millets.^[1]

Millets are regarded as one of the most essential grains for human nourishment in Ayurveda. Warm-weather, annual cereals are members of the grass family. In Ayurveda literature, millets are referred to as *Kudhanya* and *Trina Dhanya*. Millets are gluten-free, and highly nutritious, a great option for persons with diabetes or seeking to control their blood sugar levels because they are low in glycaemic index.

The general *Guna* and *Karma* mentioned in Bhavprakash Nighantu of millets are *Kashaya* (astringent) - *Madhur* (sweet) in *Rasa* (taste), *Katuvipaka* (undergoes pungent taste after digestion), *Sheetavirya* (cold potency), *Laghu* (light) and *Ruksha*

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(dry) *Guna* having properties like *Lekhan*, *Vrishya*, *Kledashoshan*, *Baddhamalkarra* effect on *Doshas* includes *Vata Prakopa*, *Kapha-Pittahar*, *Rakhtshamak*.^[2]

Types of millets

Major millets

- a) Sorghum - *Sorghum vulgare*
- b) Pearl millet - *Pennisetum glaucum*
- c) Finger millet - *Eleusine coracana*

Minor millets

- a) Foxtail millet - *Setaria italica*
- b) Proso millet - *Panicum millaceum*
- c) Kodo millet - *Paspalum scrobiculatum*
- d) Barnyard millet - *Echinochloa frumentacea*

Other than its general characteristics, millets have some unique and distinctive qualities include:

1) Sorghum (Yavanaala) - *Sorghum vulgare*

Yavanaala which is commonly known as jowar. The Indian flatbreads paratha and roti are made from sorghum flour. In China, sorghum flour is used in combination with wheat flour to make noodles and breads. Acharyas like Bhavprashkash, Madanpal Nigantu mentioned about jowar.^[3] It has properties like *Madhur* (sweet), *Sheeta* (cold), *Vataprakop*. Also, *Trishaghna* (quenches excessive thirst), *Ruchya* (improves taste perception), and *Avrishya* (anaphrodisiac), *Kledaghna* (Calms high moisture content).

It may be given in diseases like *Raktapitta* (Bleeding disorders), *Amlapitta* (Gastric disturbances), *Twak Roga* (Skin diseases) as it is *Pittaghna* (Pacifies vitiated Pitta), *Rakta Shamaka* (Pacifies vitiated Pitta), *Trishna* (Thirst), *Sthoulya* (Obesity), *Prameha* (Diabetes Mellitus) *Trishnaghna* (Pacifies thirst). It also pacifies Kapha.

Reviewed article states that it is effective in diabetes and obesity and also in Alzheimer disease.^[4] Most sorghums also contain flavonoids, and all sorghums include phenolic acids. One of the best food sources of

the flavonoid, proanthocyanidin is sorghum grains. Antioxidant activity is connected with total phenol content, which includes both phenolic acids and flavonoids. The fact that some cancers are less frequent in those people who consume sorghum regularly may be due to the antioxidant properties of the grain.

2) Pearl Millet (bajra) - *Pennisetum glaucum*

Pearl millet (*Pennisetum glaucum*) is commonly known as Bajra. It is most common millet used in India. Traditional food like bajre ki roti, khichdi etc. are very popular in present era also. In literature there is no detailed description is given by Acharya's.

Magnesium, which is found in pearl millet, helps asthmatics breathe easier and decreases the effects of migraines. Gallstone incidence is reduced in part due to the fibre in pearl millets. Pearl millet is also useful in obesity, diabetes mellitus, piles, asthma and for eye sight also. It should not be used by pregnant women and kidney disease patients in more quantity.^[5]

3) Finger Millet - *Eleusine coracana*

Finger millet commonly called as 'Ragi'. In literature it is mentioned as *Naagli* or *Nartak*. It is also called 'Gold of the poor' useful in high BP and in cancer.

Tikta-Madhur-Kashaya Rasa (bitter-sweet-astringent in taste), *Sheeta* (cold in potency-anabolic), *Snigdha* (unctuosity), *Balya* (promotes strength), and *Vrishya* (aphrodisiac). It is recommended for *Amlapitta* (gastric disturbances), *Twak Roga* (skin diseases), and *Durbalta* (energy loss) due to *Balya Karma* (helps to improve energy), *Sthoulya* (obesity), *Prameha* (diabetes mellitus), and *Balya* (increases strength and energy).

Regular consumption of finger millet has been demonstrated to provide a range of health benefits, including hypercholesterolaemia, anti-diabetic, defense against chronic diseases associated to diet, antioxidant, and antibacterial activity.

4) Foxtail Millet - *Setaria italica*

It is also called *Kanguni*, *Priyangu*. In India, foxtail millet is still an important crop in its arid and semi-arid

regions. In South India, it has been a staple diet among people for a long time from the Sangam period.

In all literature foxtail millet is mentioned having qualities like *Guru* (heavy for digestion), *Sangrahi* (absorbs excessive fluids and helps for normal formation of faeces and enhances digestion), *Brumhana* (nourishes the body tissues), *Shoshana* (dries up excessive moisture), *Bhagnasandhanakrit* (fracture healing), *Durjara* (difficult for digestion) and *Vrishya* (aphrodisiac). Blood glucose level reduction in type 2 Diabetes on using multi-millet therapeutic food which includes Foxtail tail millet too. It is also indicated in *Asthi-Bhagna* (fractures) due to its *Bhagnasandhanakrit Karma* (Facilitates fracture healing) and based on its *Guna Karma* (Properties and actions), other conditions like *Kapha-Pitta Pradhana Twak Vikara* (Skin problems due to vitiation of Kapha and Pitta), *Amavata* (Rheumatoid Arthritis) can be the indications.

In reviewed article reveals that foxtail millet is useful in lowering the blood pressure.^[6] It is also useful in reducing the blood sugar as well the cholesterol level, in constipation and in pregnant ladies.

5) Proso Millet - *Panicum millaceum*

It is also known as *Cheenak*. In text the properties are given *Guru* (heavy for digestion), *Durjara* (difficult for digestion), *Brumhana* (nourishes the body tissues), *Bhagnasandhanakara* (promotes fracture healing).

Santarpana Janya Vyadhi (Diseases due to over nourishment of body tissues) like *Sthoulya* (Obesity), *Prameha* (Diabetes Mellitus), *Medoroga* (Diseases due to excessive lipids) due to *Guru* (Heavy), *Ruksha* (Reduces unctuousness), *Kapha Hara* (Pacifies Kapha), *Brumhana* (Nourishing), *Asthi Bhagna* (Fracture) and *Kapha Pradhana Roga* (Diseases due to vitiated Kapha). It is helpful in the treatment of obesity. Proso millet's capacity to raise HDL levels, which may provide potent protective effects against the risk of developing coronary heart disease. It is also beneficial for skin.

6) Kodo Millet - *Paspalum scrobiculatum*

It is called as *Kodo*. It is a minor food crop eaten in many Asian countries, primarily in India where in some

regions it is extremely important. In text, *Kodo* has property like *Madhura-Tikta Rasa* (sweet-bitter in taste), *Guru* (heavy for digestion), *Param Graahi* (absorbs excessive fluids and helps for normal formation of faeces and enhances digestion), *Vishahara* (antipoisonous), *Avrishya* (Antaphrodisiac), *Pathya* in *Vrana* (best diet in wounds and ulcers).

Badda Vitkara (compactness of faeces), *Vrana* (Wound and ulcers) and *Santarpana Janya Vyadhi* (Diseases due to over nourishment of body tissues) like *Sthoulya* (Obesity), *Prameha* (Diabetes Mellitus), *Medoroga* (Diseases due to excessive lipids) due to *Kledashoshana* (Dries up excessive moisture), *Ruksha* (Reduces unctuousness), *Lekhana* (scraping), *Vatarakta* (Increases *Vata*), due to *Pitta-Rakta Shamaka* (Pacifies vitiated Pitta and Blood), *Vishartha* (Affected due to poison) as it is *Visha Hara* (Pacifies effects of poison) and other *Kapha-Pitta Pradhana Roga* (Diseases due to vitiated Kapha and Pitta).

Magnesium, which has been connected to a lower risk of a heart attack, is also abundant in kodomillet. Kodo millets may help lower the incidence of colon and breast cancer. Kodo millet contains phenolics that are useful at stopping the growth and spread of cancer. It is very easily digestible to the body and very useful for the nervous system.

7) Barnyard Millet - *Echinochloa frumentacea*

Barnyard Millet - Known as *Shyamaka*, Barnyard millet is a tiny white seed that is regarded to be more nutritious than any other cereal grain. Because it is high in fibre, carbs, and protein, it is used to lose weight. *Sangrahi* dries up the body tissues while *Dhatushoshaka* assists with regular stool generation and digestion by absorbing excess fluids.

Patients with diabetes and cardiovascular disease are advised to eat barnyard millet. Additionally, they work best to lower cholesterol and blood glucose levels. The barnyard millet is the best millet for patients with celiac disease or gluten sensitivity.

Contraindications of Millets

Despite millet having great nutritional values, the antinutrients present certain health hazards:

- Phytic acid - Phytic acid prevents the absorption of magnesium, potassium, calcium, iron, and zinc.
- The medical disorder known as a goitre, which is an enlargement of the thyroid gland, is caused by goitrogenic polyphenols, which interfere with thyroid function.
- According to Mary *et al.*'s findings in 2003, eating infected kodo millets can cause kodo poisoning, which is characterized by an elevated level of liver enzymes and liver toxicity. This poisoning's clinical symptoms include nausea, vomiting, unconsciousness, etc.^[7]
- Although foxtail millets are gluten-free, the content of B Vitamins and fibers is low, and thus a protective effect against chronic diseases can be reduced.

Precautions

- Millets exacerbate *Vataja roga* (*Vata*-related disorders), thus one should proceed with caution if you experience dry skin, weight loss, joint discomfort, etc.
- Along with the nutritional components, millets also include anti-nutrients such as phytic acid, polyphenols, etc. that make the nutritional components less readily available. Processing techniques like soaking will aid in lowering the anti-nutrient content. Millets should therefore be soaked before usage.^[8]

Future potential of the Millets

As this year 2023 is being celebrated as the International year of millets worldwide, the importance of the millets are being recognized as all types of the millets are very useful in reducing the severity of many life disorders and can prevent them which are very abundantly increasing and becoming the worldwide problems. Millets can be used as the source of nutrition as well as the food for the patients according to their disease. As the government is emphasizing and promoting the use, cultivation, production of the millet may definitely enhance the livelihood of the farmers also. Many recipes in the form

of pizza, burger, snacks and many more are being prepared by various food production companies may help to be the substitute of fast food products.

CONCLUSION

About fifty years ago, millets were a significant crop that was consumed in India and many other countries. India is the top millet producer in the world and the fifth-largest millet exporter globally. There is a growing understanding of the need to switch to healthier, more widely available, and less expensive diets that include millets as a result of India's rising malnutrition problem, which includes under nutrition (deficiencies in vitamins, minerals, and proteins) as well as over nutrition (obesity, metabolic syndrome, and lifestyle diseases). Millets are naturally gluten-free, loaded with nutrients, and a good source of protein, dietary fibre, vital fatty acids, and vitamin B. Millets are regarded as a potential option or solution to lessen the negative effects of rising malnutrition and to improve the food and nutrition security of the country. Millets also help prevent a number of non-communicable lifestyle diseases like diabetes, hypertension, and cardiovascular disease.

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