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Importance of *Kudhanya Varga* w.s.r. to Millet and its nutritional as well as therapeutic value in lifestyle disorder

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ABSTRACT

Lifestyle diseases are characterized by the daily faulty regimen regarding eating and living habits. The main factors contributing life style diseases included bad food habits like bakery products, junk food Physical inactivity due to westernization of life style which creates obesity, Diabetes mellitus and metabolic syndrome. Ayurveda is science of management of disease via medicinal herbal and mineral drugs along with prevention of lifestyle disease through adequate Diet. In various *Samhita, Ahara Dravya* is classified into many subdivisions in which *Kudhanya* (*Trin Dhanya*) is a group of small seeded cereals used as human food since ages. *Kudhanya Varga* is compared with Nurti-cereals as Millets. **Method:** *Kudhanya* description has been collected from *Samhita* and *Nighantu* along with their synonyms, properties, and action in various Lifestyle disorders. **Result:** *Kudhanya Varga* possess *Madhur-Kashaya Rasa, Katu Vipaka, Ushna Virya* and are *Kapha Shamaka* and *Vata-Pitta Prakopaka.* Due to its *Bruhaniya* property it is useful in malnutrition, on contrary due to its *Laghu, Ruksha Guna, Vilekhana Karma* which can be used in obesity. **Conclusion:** Thus, it is high need fighting with nutritional deficiency to convert our nutritional value of *Kudhanya* (Millets) as supplements and disease combating agents.

Key words: *Kudhanya Varga, Millet, Nurti-cereals, Lifestyle Disorder*

INTRODUCTION

Millets, Ancient Grains for Modern Health i.e., the tiny-seeded cereal crops, have been a nutritional treasure trove for humanity since 8000 B.C. These grains, often called "nutri-cereals" or "poor man's cereals," were once the backbone of early Indian diets, supporting millions in arid and semi-arid regions. Rich in fibers, B-complex vitamins, minerals, and unique phytochemicals like lignans and polyphenols, millets have resurfaced in the modern world as champions of health and sustainability. These Millets are non-glutinous, easy to digest, and non-acid-forming, making them ideal for people with gluten intolerance or celiac disease. Their dense nutrient content aids in reducing heart disease risks, managing diabetes, improving digestion, and even protecting against neurodegenerative conditions like Parkinson's disease. Loaded with antioxidants such as phenolic acids and flavonoids, these grains act as detoxifying agents and immune boosters, combating the effects of aging and lifestyle-related disorders.

The *Prayojana* of *Ayurveda* is *"Swasthasya Swastha*

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Rakshyanam Aturasya Vikar Prasamanm Cha"[1], which implies maintaining good health is essential and in the case of illness, restoring this balance is key to regaining well being. In Ayurveda, food plays a crucial role in maintaining health and preventing diseases. The concept of *"Aahara"* (diet)[2] as the foremost medicine is well emphasized in classical texts like Brihat Trayi and *Laghu* Trayi. In Ayurveda, grains *(Dhanya Varga)* are categorized based on their nutritional properties, digestibility, and health benefits. Among them, *Kudhanya Varga* or *Kshudradhanya Varga*[3] is compared with Nurti-cereals as Millets. In Charak Samhita, *Kudhanya Varga* comes under *Sukadhanya Varga*[4] where as in Astanga Hridaya, *Kudhanya Varga* is known as *Trina Dhanya Varga*[5]. *Kudhanya* refers to small-seeded, hardy grains that thrive in diverse climatic conditions with minimal water and soil requirements. It is primarily *Laghu* (light) and *Ruksha* (dry) in nature. They help in balancing *Kapha* and *Pitta Doshas*, making them beneficial in conditions like obesity, diabetes, and cardiovascular diseases. The *Kashaya* (astringent) and *Madhura* (sweet) *Rasa* of millets contribute to their detoxifying and rejuvenating properties, making it highly beneficial for maintaining *Dosha* balance and overall well-being. These grains have been a part of traditional diets for centuries and are now regaining popularity due to their superior nutritional value, gluten-free nature, and therapeutic benefits in combating modern lifestyle disorders. such as diabetes, obesity, hypertension, dyslipidaemia, cardiovascular diseases, and metabolic syndrome, the significance of *Kudhanya Varga* has gained renewed attention. Ancient Indian kitchens celebrated these grains, weaving them into everyday meals to nourish body and soul.

With the rise of lifestyle disorders due to excessive consumption of refined grains, incorporating *Kudhanya* into the diet can provide a holistic, natural, and sustainable approach to health. Their low glycaemic index (GI), high fiber content, and nutrient-dense composition make them an ideal dietary alternative to conventional grains like rice and wheat.

The year 2023 marked a pivotal moment in the Global Millets Renaissance, as the United Nations, following India's initiative, designated it as the "International Year of Millets". The Global Millets Renaissance, the year 2023 marked a significant milestone as the United Nations, at the behest of the Government of India, declared it the "International Year of Millets." This initiative aimed to raise awareness about the unparalleled advantages of millets and promote their cultivation and consumption globally. As the world pivots towards healthier and more sustainable diets, millets stand at the forefront as a beacon of hope. By reintroducing these ancient grains into modern diets, we can combat health crises, protect the environment, and honor a rich agricultural heritage. Let's embrace millets – a gift from our ancestors for the wellness of future generations. This format blends historical context, scientific insights, and a modern call to action to make the content engaging and impactful.

Why Choose Millets?

1. Nutritional Powerhouse: Packed with resistant starch, oligosaccharides, and healthy lipids.
2. Health Protector: Fights NCDs, detoxifies the body, and boosts immunity.
3. Sustainable Farming: Thrives in challenging conditions, contributing to food security.
4. Eco-Friendly Crop: Requires less water, less pesticide, and fewer resources

Global Distribution and Production of Millets

Millets are drought-resistant, hardy grains cultivated across various regions of the world, primarily in semi-arid and tropical climates. These nutrient-rich cereals are grown in Africa, Asia, and parts of Europe and the Americas, with India being the largest producer. Their ability to thrive in poor soil conditions with minimal water and inputs makes them a vital crop for ensuring food security and sustainable agriculture.

Table 1: Major Millet-Producing Countries (Global Overview)[6]

Rank	Country	Major Millets Grown	Production Contribution (%)
1	India	Pearl Millet, Finger Millet, Sorghum,	40% of global production

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		Foxtail Millet, Kodo Millet	
2	Nigeria	Pearl Millet, Sorghum	20%
3	China	Foxtail Millet, Proso Millet	15%
4	Niger	Pearl Millet, Sorghum	10%
5	Mali	Pearl Millet, Sorghum	5%
6	Sudan	Pearl Millet, Sorghum	5%
7	Ethiopia	Finger Millet, Pearl Millet	3%
8	United States	Proso Millet, Foxtail Millet	2%
9	Russia	Proso Millet, Foxtail Millet	2%
10	Other Countries	Various Millets	3%

Aim and Objectives

1. To understand the role of *Kudhanya Varga* (Millets) in Life style disorders.
2. To analyze the nutritional & therapeutic value of *Kudhanya Varga*.

Materials and Methods

- Brihatrayee & other important Ayurvedic classics books.
- Internet Reference Journals.
- Scientific Research Papers.

Kudhanya Varga

In Ayurveda, *Kudhanya Varga* refers to a specific group of grains and cereals that are considered minor or less commonly used, often categorized under the broader group of *Dhanya Varga* (cereals and grains). The term *"Kudhanya"* typically denotes smaller grains like millets that have been traditionally consumed for their nutritional and therapeutic benefits. These grains are recognized for their unique properties and their ability to balance the doshas (*Vata, Pitta,* and *Kapha*) in the human body. *Kudhanya* is known as *Kshudradhanya*. Acharya Sushruta describe *Kudhanya Varga* in *Annapanavidhi Adhyaya*. According to Acharya Charak *Kudhanya* is known as *Trupta Dhanya*[7] where as it comes under *Sukadhanya Varga* and in *Astanga Hridaya* and Bhavaprakash, *Kudhanya Varga* is known as *Trunadhanya Varga*[8].

Etymology and Meaning

The term *"Kudhnya"* originates from the Sanskrit root word *"Kud"*, meaning to boil or cook, emphasizing that these grains must be processed before eating. *"Varga"* means a classification or group, indicating a category of grains that share similar properties.

Characteristics of *Kudhanya*[9]

Kudhanya has *Kashaya* and *Madhura Rasa, Laghu, Rukshya Guna, Ushna Virya, Katu Vipaka, Lekhan, Grahi, Vata-Pitta Prakopaka* and *Kaphahara.*

1. Smaller in Size: Compared to major cereals like rice and wheat, the grains under Kudhanya are smaller and often hard-shelled.
2. Easily Digestible: Many of these grains are light and easy to digest, making them suitable for individuals with weaker digestive systems.
3. Adaptable to Harsh Climates: These grains are drought-resistant and can grow in nutrient-poor soils, making them environmentally sustainable.
4. Therapeutic Value: *Kudhanya* grains are considered valuable in managing various health conditions due to their unique nutrient profiles.

Types of Millets and its Ayurvedic Perspective[10,11,12]

Millets are broadly classified into **major millets** and **minor millets** based on their cultivation area, production, and consumption. Major millets are cultivated on a larger scale and have significant economic importance, while minor millets are grown in smaller quantities but are equally nutritious and beneficial. Major millets are Pearl Millet (Bajra), Finger Millet (Ragi) and Sorghum (Jowar) where as Minor millets are Foxtail Millet (Kangni), Proso Millet (Chena), Little Millet (Kutki), Kodo Millet (Kodra), Barnyard Millet (Sanwa). In Ayurveda, different varieties of millets are classified under Kudhanya Varga include

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Kangu / Priyangu, Cheenak / cheena, Shyamak / Sawa, Kodrava / Koradusha, Gavedhuka, Yavanala, Nartiki.

(a) Major Millets

1] Pearl Millet - Pearl millet (Bajra) has been a staple in Indian cuisine for centuries, commonly used in khichdi and rotis. Thriving in high temperatures, it is predominantly grown in Rajasthan and is highly resilient to drought, poor soil fertility, and high salinity. Rich in magnesium, it aids in asthma relief and migraine management. Its high fiber content helps prevent gallstones and supports digestive health. With its nutritional and environmental benefits, Bajra remains a vital component of traditional and modern diets.

Table 2: Representation of the Ayurvedic properties of Pearl Millet as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Madhura* (Sweet), *Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may aggravate *Pitta*	Improves digestion, supports energy levels, and aids in managing water retention.
Sushruta Samhita	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may aggravate *Pitta*	Helps in weight management, supports digestive health, and enhances stamina.
Bhavaprakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may increase *Pitta*	Supports metabolism, helps manage blood sugar levels, and is beneficial for physical endurance.
Raj Nighantu	*Kashaya* (Astringent)	*Laghu* (Light),	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may	Enhances strength, aids in managing
	Tikta (Bitter)	*Ruksha* (Dry)			aggravate *Pitta*	constipation, and improves appetite.

2] Finger Millet - Finger millet or Ragi is a highly nutritious grain primarily grown in India, Sri Lanka, and Ethiopia. It aids in digestion, delays aging, and reduces heart disease risk. Once a staple in Indian cuisine, its popularity declined but regained attention after the UN FAO emphasized its role in preventing malnutrition. Rich in calcium, it strengthens bones and is beneficial for children, the elderly, and pregnant women. Its iron content helps prevent anaemia, while it also enhances lactation in nursing mothers. Ragi remains a valuable superfood for overall health and well-being. It helps lactating mothers produce sufficient breast milk.

Table 3: Representation of the *Ayurvedic* properties of Finger Millet (Ragi) as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Madhura* (Sweet), *Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Strengthens bones, supports digestion, and helps in managing excessive thirst.
Sushruta Samhita	*Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Aids in managing diabetes, supports liver health, and promotes detoxification.
Bhavaprakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Enhances bone health, reduces inflammation, and helps in weight

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						management.
Raj Nighantu	*Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Strengthens *Dhatus* (tissues), aids in digestion, and supports metabolism.

3] Sorghum Millet (Jowar) - Sorghum, commonly known as Jowar, is a major millet widely cultivated in India, Africa, and the USA. It is a highly nutritious, gluten-free grain rich in protein, fiber, iron, calcium, and antioxidants. Jowar is known for its low glycaemic index, making it beneficial for diabetes management and weight control. It is commonly used to make rotis (flatbreads), porridge, baked goods, and even fermented beverages. Sorghum is also drought-resistant, making it an essential crop for sustainable agriculture. With its health benefits and versatility, Jowar is gaining popularity as a superfood worldwide.

Table 4: Representation of the Ayurvedic properties of Sorghum Millet as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may aggravate *Pitta*	Supports digestion, helps in detoxification, and provides sustained energy.
Sushruta Samhita	*Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may aggravate *Pitta*	Useful in managing obesity, enhances stamina, and supports liver function.
Bhavaprakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may increase *Pitta*	Aids in managing blood sugar levels, supports gut health, and improves metabolism.
Raj Nighantu	*Kashaya* (Astringent), *Tikta* (Bitter)	*Laghu* (Light), *Ruksha* (Dry)	*Ushna* (Hot)	*Katu* (Pungent)	Balances *Kapha*, may aggravate *Pitta*	Promotes strength, aids in digestion, and helps in managing water retention.

(b) Minor Millets

1] Foxtail Millet - It commonly known as *Kangu*, originated in India and northern China in these regions where it is extensively cultivated. The name comes from its resemblance to a tapering flower cluster. This drought-resistant crop matures in approximately 70 days when sown around late May. Foxtail millet supports a steady release of glucose without disrupting the body's metabolism. Rich in magnesium, it is considered a heart-healthy grain and plays a role in reducing the risk of diabetes in the population.

Table 5: Representation of the Ayurvedic properties of Foxtail Millet as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Sheeta* (Cooling)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Supports detoxification, aids in controlling blood sugar levels, and enhances kidney function.
Sushruta Samhita	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha*	Useful in managing obesity, reduces

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	), *Madhura* (Sweet)				and *Pitta*	inflammation, and aids in weight management.
Bhavaprakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Sheeta* (Cooling)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Promotes detoxification, supports digestive health, and helps in controlling excessive thirst.
Raj Nighantu	*Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Helps in managing diabetes, supports kidney health, and reduces water retention.

2] Proso Millet - It is commonly known as Cheenak / Chena, is a minor millet widely grown in India, China, and Eastern Europe. It is a drought-resistant crop that matures quickly, making it ideal for dry regions. Rich in protein, fiber, and antioxidants, Proso millet supports heart health, digestion, and weight management. It has a low glycemic index, making it beneficial for diabetes control. Commonly used in porridge, rotis, baked goods, and animal feed, it is gaining popularity as a gluten-free superfood. Traditionally, it is used as a restorative dish, especially after childbirth or illness.

Table 6: Representation of the Ayurvedic properties of Proso Millet as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Supports digestion, enhances physical energy, and improves mental clarity.
Sushruta Samhita	*Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Beneficial for detoxification, helps manage thirst, and alleviates burning sensations.
Bhava prakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*, may increase Vata	Useful in diabetes management, enhances digestion, and supports the removal of toxins from the body.
Raj Nighantu	*Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Strengthens *Dhatus* (body tissues), aids in weight management, and improves metabolic functions.

3] Little Millet - Little millet often referred to as Sama, Shavan, or Kutki, is fortified with minerals like zinc, iron, potassium, and calcium. This grain is abundant in Vitamin B3, which helps lower cholesterol, boost metabolism, support tissue repair, and enhance energy production. It is also a good source of minerals like calcium, iron, potassium, and zinc. Moreover, it gives the body the necessary lipids that aid in weight loss. Another benefit is that it has a high fiber content.

Table 7: Representation of the Ayurvedic properties of Little Millet as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Madhura* (Sweet), *Kashaya*	*Laghu* (Light), *Ruksh*	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Strengthens bones, supports digestion, and helps manage

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	(Astringent)	*a* (Dry)				excessive thirst.
Sushruta Samhita	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Aids in managing diabetes, supports liver health, and promotes detoxification.
Bhavaprakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Enhances bone health, reduces inflammation, and helps in weight management.
Raj Nighantu	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Strengthens *Dhatus* (tissues), aids digestion and supports metabolism.

4] Kodo Millet - Also known as Kodrava or Koradusha, Kodo Millet is a traditional food that supports weight loss and has a rice-like taste. It is easily digestible and packed with phytochemicals and antioxidants that help prevent diseases linked to a sedentary lifestyle. It has shown anti-cancer, weight-reducing, and anti-arthritic effects, as well as strong antioxidant properties in in vitro models. Additionally, Kodo millet helps alleviate hip and knee pain and promotes regular menstruation in women and demonstrates immunostimulatory and immunomodulatory potential in RAW 264.7 cells.

Table 8: Representation of the Ayurvedic properties of Kodo Millet as described in various classical Ayurvedic texts.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Kashaya* (Astringent)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Katu* (Pungent)	Balances *Kapha* and *Pitta*	Supports digestion, detoxifies the body, and helps in managing excessive thirst.
Sushruta Samhita	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Useful in managing obesity, aids in diabetes control, and enhances urinary function.
Bhavaprakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Sheeta* (Cooling)	*Sheeta* (Cooling)	*Katu* (Pungent)	Balances *Kapha* and *Pitta*	Promotes detoxification, reduces inflammation, and helps in managing joint pain and stiffness.
Raj Nighantu	*Kashaya* (Astringent)	*Laghu* (Light) *Ruksha* (Dry)	*Sheeta* (Cooling)	*Katu* (Pungent)	Balances *Kapha* and *Pitta*	Helps in managing obesity, supports liver function, and aids in reducing water retention.

5] Barnyard Millet - Known as *Shyamaka,* a Barnyard millet is a tiny white seed that is regarded to be more nutritious than any other cereal grain. It is used for weight loss as it is rich in fiber, carbohydrates, and protein. Moreover, it is a good source of calcium and phosphorus which is essential for bone growth.

Table 9: Representation of the Ayurvedic properties of Barnyard Millet based on classical Ayurvedic text.

Text	*Rasa*	*Guna*	*Virya*	*Vipaka*	*Dosha* Action	*Prabhava*
Charaka Samhita	*Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Promotes detoxification, helps manage excessive thirst, and

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						supports healthy metabolism.
Sushruta Samhita	*Kashaya* (Astringent), *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Useful in managing water retention, supports kidney health, and aids in reducing body heat.
Bhava Prakasha	*Kashaya* (Astringent)	*Laghu* (Light), *Sheeta* (Cooling)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Pitta* and *Kapha*	Supports weight management, aids in controlling diabetes, and enhances digestion.
Raj Nighantu	*Kashaya* (Astringent) *Madhura* (Sweet)	*Laghu* (Light), *Ruksha* (Dry)	*Sheeta* (Cooling)	*Madhura* (Sweet)	Balances *Kapha* and *Pitta*	Strengthens *Dhatus* (tissues), helps in managing hypertension, and promotes urinary health.

Millets according to Ayurveda:[13,14]

Kshudradhanya in addition, every millet has additional qualities mentioned below.

1) *Kangu/ Priyangu* (Seteria italica beauv - Foxtail Millet) is a nutritious grain with various health benefits. It possesses multiple properties, including *Guru* (heavy for digestion), *Sangrahi* (absorbs excess fluids, aids in proper stool formation, and enhances digestion), *Brumhana* (nourishes bodily tissues), *Shoshana* (reduces excess moisture), *Bhagnasandhanakrit* (promotes fracture healing), *Durjara* (challenging to digest), and *Vrishya* (acts as an aphrodisiac) *Laghu* (Light in nature compared to other heavy grains), *Rochana* (Stimulates appetite), *Balya* (Provides strength and energy), *Kaphapittahara* (Balances *Kapha* and *Pitta Doshas*). *Kangu* is commonly used as a rice substitute and is known to alleviate labor pain. Additionally, it is beneficial in managing conditions such as *Amavata* (rheumatoid arthritis) *Prameha* (diabetes), *Medoroga* (obesity), *Grahani* (IBS), *Asthi-bhagna* (bone fractures), and *Atisara* (diarrhea).

2) *Cheenak / Cheena* (*Panicum miliaceum* - Indian millet or Proso millet) Cheenak, also known as Cheena (*Panicum miliaceum* - Indian Millet or Proso Millet), is a nutrient-rich grain with various health benefits. It exhibits several properties, including *Guru* (heavy for digestion), *Durjara* (difficult to digest), *Brumhana* (nourishes bodily tissues), and *Bhagnasandhanakara* (promotes fracture healing). Additionally, Cheenak possesses *Madhura Rasa* (naturally sweet in taste), *Sheeta Virya* (cooling in nature), *Rochana* (stimulates appetite), *Sangrahi* (helps in stool formation and prevents diarrhea), and *Balya* (strengthens the body). It is beneficial in conditions such as *Asthi-bhagna* (bone fractures), *Daurbalya* (weakness and fatigue), *Pittaj Vikara (Pitta*-related disorders*),* and *Vata Roga* (diseases caused by aggravated *Vata*). Despite its nourishing properties, it should be consumed in moderation due to its heavy and difficult-to-digest nature

3) *Shyamak / Sawa* (*Echinochloa frumentacea* - Barnyard millet) is a highly nutritious and adaptable grain, often referred to as the "cereal of the poor" due to its affordability and wide availability. It is particularly beneficial in *Pittaj Vikara* (*Pitta*-related disorders) and *Vibandha* (constipation), with its *Panchang* (whole plant) being used for medicinal purposes. Shyamak exhibits various properties, including *Guru* (heavy for digestion), *Laghu* (lighter compared to other heavy cereals), *Sangrahi* (absorbs excess fluids and aids in stool formation), and *Dhatu Shoshak* (dries bodily tissues, reducing excessive moisture). Additionally, it is *Ruksha* (dry in nature), *Sheeta Virya* (cooling in potency), *Balya* (strengthening and energizing), and *Deepana* (stimulates digestion). It is effective in *Prameha* (diabetes) due to its low glycaemic index, supports weight management by improving *Medoroga* (fat metabolism), and is beneficial in digestive disorders and malabsorption issues

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4) *Kodrava / Koradusha* (*Paspalum scrobiculatum* - Kodo millet) is a highly nutritious grain with multiple health benefits. It has a *Madhura-Tikta Rasa* (sweet and bitter taste) and is *Guru* (heavy for digestion). It is *Param Graahi*, meaning it effectively absorbs excess fluids and supports proper stool formation. Kodo Millet is also known for its *Vishahara* (anti-poisonous) properties and is *Avrishya* (anaphrodisiac). It is considered *Pathya* (beneficial) in *Vrana* (wounds and ulcers), promoting faster healing. Additionally, it is *Sheeta Virya* (cooling in nature), *Ruksha* (dry), *Balya* (strength-giving), and *Kaphapittahara* (helps balance *Kapha* and *Pitta Doshas*). Due to its low glycaemic index, it is a healthy substitute for rice in diabetic patients, aiding in blood sugar regulation. It also supports weight management, detoxification, and digestive health. However, excessive consumption should be avoided due to its heavy digestion properties.

5) *Gavedhuka* (*Coix lacryma* - Adlay millets) is a highly beneficial grain with *Katu-Madhura Rasa* (pungent and sweet taste) and shares many properties with *Shyamaka*. It is *Karshyakaari* (emaciating), aiding in weight loss and metabolism regulation. Additionally, it is *Kapha Hara* (reduces excess *Kapha Dosha*), making it useful in conditions related to congestion and excessive mucus production. *Gavedhuka* is also known for its *Mutral* (diuretic) properties and is beneficial in *Mutra Krichra* (painful urination). The roots of this plant are traditionally used to alleviate *Pidita Artava* (dysmenorrhea), helping to ease menstrual pain.

6) *Yavanala* (*Sorghum vulgare* - Jowar/ Sorghum) is a highly nutritious and versatile grain with numerous health benefits. It is *Ruchya* (enhances taste perception), making it a flavourful addition to meals. It also possesses *Trishnaghna* (reduces excessive thirst) and *Kledaghna* (absorbs excess moisture), making it beneficial for individuals with excessive sweating or water retention issues. Additionally, *Yavanala* is known for its *Mutrajanan* (urogenesis-promoting) properties, supporting kidney function and urinary health. It is also slightly *Vrishya* (mildly aphrodisiac), helping in overall vitality and strength. Moreover, it has *Guru* (heavy for digestion), *Laghu* (light compared to other cereals), *Ruksha* (drying), *Balya* (strength-giving), and *Deepana* (digestive stimulant) properties. Due to its gluten-free nature, it is an excellent grain for individuals with gluten intolerance).

7) *Nartiki* (*Eleusine coracana* - Ragi/ Finger millet) is a highly nutritious grain with numerous health benefits. It has a *Tikta-Kashaya-Madhura Rasa* (bitter, astringent, and sweet taste) and is *Sheeta* (cooling in potency), making it beneficial in *Pittaj Vikara* (pitta-related disorders) and conditions requiring a cooling effect. It is also *Snigdha* (unctuous), which helps maintain moisture balance in the body and supports joint health. Additionally, it is *Balya* (strength-promoting), aiding in muscle and bone health, and *Vrishya* (aphrodisiac), enhancing vitality and stamina. *Ragi* is *Guru* (heavy for digestion), *Ruksha* (drying), and *Dhatuposhak* (nourishes body tissues), making it excellent for individuals needing nourishment and strength. Being rich in calcium and iron, it supports bone density, anaemia management, and overall endurance. Due to its high fiber content, it helps in diabetes management, digestion, and weight control. Regular consumption of *Ragi* promotes energy, stamina, and long-term health benefits, making it a valuable staple in a balanced diet.

Table 10: Nutritional values (as per 100gm), chemical constituents of Kudhyanya Varga (Millets)

Kudhanya Varga	Energy (kcal)	Protein (g)	Carbo-hydrates (g)	Fiber (g)	Fat (g)	Calcium (mg)	Iron (mg)	Chemical Constituents
Kangu (Foxtail Millet)	351	12.3	60.2	8.0	4.3	31	2.8	Phenolics, Flavonoids, Magnesium, Zinc
Cheenak (Proso Millet)	356	12.5	70.4	2.2	1.1	8	2.9	Lecithin, Niacin, Phosphorus, Potassium

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Shyamak (Barnyard Millet)	342	6.2	65.5	9.8	2.6	20	5.0	Antioxidants, Phytic Acid, Polyphenols
Kodrava (Kodo Millet)	309	8.3	66.2	5.2	1.4	27	0.5	Tannins, Phospholipids, Phytates
Gavedhuka (Job's Tears)	378	15.0	73.5	6.0	1.5	20	1.7	Coixenolide, Amino Acids, B Vitamins
Yavanala (Jowar/Sorghum)	329	10.4	72.6	6.7	3.0	13	4.1	Anthocyanins, Tannins, Policosanols
Nartiki (Ragi/Finger Millet)	336	7.3	72.0	11.5	1.9	344	3.9	High Calcium, Tryptophan, Methionine, Polyphenols

Nutritional Significance of Millets

Millets are nutrient-dense grains that offer a balanced composition of:

- Complex carbohydrates - Slow digestion prevents postprandial blood sugar spikes, making them ideal for diabetes.
- High dietary fiber - Supports gut health, weight management, and cholesterol regulation.
- Essential minerals - Rich in iron, calcium, magnesium, phosphorus, potassium, and zinc, crucial for bone strength, immunity, and metabolic balance.
- B-complex vitamins - Important for energy metabolism and nervous system health.
- Gluten-free nature - Suitable for individuals with gluten intolerance or celiac disease.
- Antioxidants & Polyphenols - Offer anti-inflammatory, anti-aging, and detoxification benefits.

Table 11: Therapeutic value of *Kudhanya Varga* (Millets) in various lifestyle disorders.

Lifestyle Disorder	Role of Millets (*Kudhanya Varga*)	Specific Millets (*Kudhanya*) Mentioned in Ayurveda
Diabetes Mellitus	Low glycemic index (GI) prevents sudden blood sugar spikes. High fiber improves insulin sensitivity and slows glucose absorption. Magnesium content enhances insulin secretion.	Kangu (Foxtail Millet), Kodrava (Kodo Millet), Shyamaka (Barnyard Millet), Ragi (Finger Millet)
Obesity & Weight Management	High dietary fiber induces satiety and reduces overeating. Low-calorie content helps in weight control. Complex carbohydrates provide sustained energy without rapid glucose spikes.	Jowar (Sorghum), Bajra (Pearl Millet), Shyamaka (Barnyard Millet), Kodrava (Kodo Millet)
Hypertension (High Blood Pressure)	High potassium and low sodium content help regulate blood pressure. Antioxidants reduce oxidative stress and vascular inflammation. Magnesium helps relax blood vessels, improving circulation.	Kangu (Foxtail Millet), Bajra (Pearl Millet), Jowar (Sorghum)
Cardiovascular Diseases	Rich in fiber, which helps reduce LDL (bad cholesterol) levels. Presence of antioxidants supports heart health. Healthy fats and amino acids contribute to better lipid metabolism.	Ragi (Finger Millet), Jowar (Sorghum), Kangu (Foxtail Millet), Bajra (Pearl Millet)
Osteoporosis & Bone Health	Rich in calcium, phosphorus, and magnesium for strong bones. Helps prevent calcium deficiency-related issues, including osteoporosis. Supports bone mineralization and joint health.	Ragi (Finger Millet), Bajra (Pearl Millet), Shyamaka (Barnyard Millet)
Thyroid Disorders	Rich in selenium and zinc, essential for thyroid hormone production. Presence of iodine in certain millets supports thyroid function. Helps regulate metabolism.	Kangu (Foxtail Millet), Kutki (Little Millet), Jowar (Sorghum)

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Anemia & Iron Deficiency	High iron content, especially in Ragi, helps prevent anaemia. Presence of vitamin C in combination with iron enhances absorption. Supports haemoglobin production and oxygen transport.	Ragi (Finger Millet), Bajra (Pearl Millet), Kodrava (Kodo Millet)
Liver Health & Fatty Liver Disease	Helps in detoxification and reduces liver inflammation. Lowers fat accumulation in the liver, reducing the risk of fatty liver disease. Supports enzyme function and bile production.	Kodrava (Kodo Millet), Shyamaka (Barnyard Millet), Kangu (Foxtail Millet)
Polycystic Ovarian Syndrome (PCOS)	Low glycemic index helps in regulating insulin levels. Fiber aids in hormonal balance. Anti-inflammatory properties support reproductive health.	Kangu (Foxtail Millet), Kodrava (Kodo Millet), Shyamaka (Barnyard Millet)
Skin & Hair Health	Antioxidants help prevent premature aging. Rich in amino acids essential for collagen production. Strengthens hair follicles and prevents hair fall.	Ragi (Finger Millet), Jowar (Sorghum), Kutki (Little Millet)
Detoxification & Immunity Boosting	Rich in antioxidants like polyphenols and flavonoids, which remove toxins. Anti-inflammatory properties reduce oxidative stress. Strengthens immunity and supports liver detoxification.	Kodrava (Kodo Millet), Shyamaka (Barnyard Millet), Kangu (Foxtail Millet), Jowar (Sorghum)

Discussion

Kudhanya Varga, which includes various millets, plays a crucial role in modern dietary habits due to its exceptional nutritional and therapeutic benefits. Lifestyle disorders such as diabetes, obesity, hypertension, cardiovascular diseases, and metabolic syndrome are primarily caused by poor dietary choices, sedentary lifestyles, stress, and environmental factors. Millets, being rich in fiber, proteins, essential minerals (calcium, iron, magnesium), and antioxidants, help manage these disorders effectively. Their low glycaemic index regulates blood sugar levels, making them ideal for diabetics, while their high fiber content aids in weight management and gut health by preventing constipation and promoting satiety. Additionally, their antioxidant and anti-inflammatory properties support healthy heart, reduce oxidative stress, and lower the risk of chronic inflammation-related conditions. Ayurveda recognizes millets for their *Sangrahi* (absorbent), *Deepana* (digestive stimulant), and *Balya* (strength-promoting) properties, making them valuable in conditions like *Prameha* (diabetes), *Medoroga* (obesity), and metabolic syndromes. Moreover, being gluten-free, they serve as an excellent alternative for individuals with gluten intolerance. With the rising prevalence of lifestyle disorders, integrating wholesome, traditional grains like millets into daily diets is essential for promoting long-term health, disease prevention, and overall well-being.

Conclusion

Millets, classified under *Kudhanya Varga* in Ayurveda, align with modern nutritional science in offering a holistic solution to combat lifestyle disorders. Their low glycaemic index, high fiber, rich micronutrient profile, and disease-preventive properties make them ideal dietary choices for the modern population. As the world moves towards functional foods, Ayurveda's wisdom emphasizes the importance of millets in maintaining health, preventing diseases, and promoting a sustainable future. By reintroducing millets into daily diets, we can bridge the gap between traditional wisdom and modern nutrition, ensuring better health outcomes and environmental sustainability

References

1. Agnivesh, Charak Samhita. Vidyotini Hindi commentary. Edr. Sri Satya Narayana Sastri. Varanasi: Chaukhamba Bharati Academy; 2016. Ch. Su. 30/26. p. 587.
2. Sushruta M. Sushruta Samhita. Ayurveda tatwa sandipaka, Hindi commentary. Edr. Kabiraj Ambika Dutta Shastri. Varanasi: Chaukhamba Sanskrit Samsthan; 2018. Su. Su. 1/36. p. 10.
3. Sushruta M. Sushruta Samhita. Ayurveda tatwa sandipaka, Hindi commentary. Edr. Kabiraj Ambika Dutta Shastri. Varanasi: Chaukhamba Sanskrit Samsthan; 2018. Su. Su. 45/21. p. 243.

ISSN: 2456-3110 **REVIEW ARTICLE** December 2024

4. Agnivesh, Charak Samhita. Vidyotini Hindi commentary. Edr. Sri Satya Narayana Sastri. Varanasi: Chaukhamba Bharati Academy; 2016. Ch. Su. 27/16. p. 525.
5. Vagbhata, Astanga Hridaya. Vidyotini Hindi commentary. Edr. Kaviraj Atrideva Gupta. Varanasi: Chaukhamba Prakashan; 2019. Ah. Su. 6/11. p. 65.
6. Dayakar Rao B, Bhaskaracharya K, Arlene Christina GD, Sudha Devi G. Nutritional and Health Benefits of Millets. Hyderabad: Director, ICAR-Indian Institute of Millets Research; 2017. p. 9.
7. Agnivesh, Charak Samhita. Vidyotini Hindi commentary. Edr. Sri Satya Narayana Sastri. Varanasi: Chaukhamba Bharati Academy; 2016. Ch. Su. 27/16-20. p. 525-526.
8. Vagbhata, Astanga Hridaya. Vidyotini Hindi commentary. Edr. Kaviraj Atrideva Gupta. Varanasi: Chaukhamba Prakashan; 2019. Ah. Su. 6/11. p. 65.
9. Sushruta M. Sushruta Samhita. Ayurveda tatwa sandipaka, Hindi commentary. Edr. Kabiraj Ambika Dutta Shastri. Varanasi: Chaukhamba Sanskrit Samsthan; 2018. Su. Su. 46/22. p. 244.
10. Dayakar Rao B, Bhaskaracharya K, Arlene Christina GD, Sudha Devi G. Nutritional and Health Benefits of Millets. Hyderabad: Director, ICAR-Indian Institute of Millets Research; 2017. p. 15-21.
11. Bhavamishra, Bhavaprakasha Nighantu. Dhanyavarga. Srikantha Murthy KR, editor. Varanasi: Chowkhamba KrishnaDas Academy; 2011. p. 374.
12. Pandit N, editor. Raj Nighantu (Dhanya Varga). Varanasi: Chaukhamba Krishnadas Academy; 1998.
13. Sushruta M. Sushruta Samhita. Ayurveda tatwa sandipaka, Hindi commentary. Edr. Kabiraj Ambika Dutta Shastri. Varanasi: Chaukhamba Sanskrit Samsthan; 2018. Su. Su. 46/22-26. p. 244.
14. Vagbhata, Astanga Hridaya. Vidyotini Hindi commentary. Edr. Kaviraj Atrideva Gupta. Varanasi: Chaukhamba Prakashan; 2019. Ah. Su. 6/12-16. p. 65-66.

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