

Indian Journal of Modern Research and Reviews

This Journal is a member of the 'Committee on Publication Ethics'

Online ISSN: 2584-184X



Research Article

A Holistic Approach to Well-being through Millets and Ayurveda

AUTHOR(S): Dr. Avvinish Narine^{1*}, Dr. Fatemeh Moazzamipeiro² and Prof. (Dr.) Gopesh Mangal³

DOI: <https://doi.org/10.5281/zenodo.12627180>

ABSTRACT

Ayurveda, the ancient science of life, reverberates with the wisdom of harmonizing the mind, body, and spirit. In this context, the International Year of Millets 2023 assumes profound significance as it brings to the forefront the therapeutic potential of these humble grains from an Ayurvedic perspective. This article delves into the rich tapestry of millets, elucidating their role in Ayurveda as a source of nourishment, balance, and healing. Exploring millets through the lens of Ayurvedic nutrition, to unearth the unique qualities of various millet varieties, deciphering their impact on the *Dosha* - *Vata*, *Pitta*, and *Kapha*. Ayurvedic principles guide in understanding how millets can be tailored to individual constitutions, offering a personalized approach to dietary wellness. Traversing the terrain of Ayurvedic therapeutics, it emphasizes the importance of a balanced diet in holistic healing. Millets, with their diverse nutrient profiles, emerge as potent allies in addressing common ailments and imbalances. This article describes how millets can be harnessed to pacify aggravated *Doshas* and promote overall vitality. Delving into the practical application of millets in Ayurvedic cuisine, traditional recipes and dietary guidelines is presented, ensuring that readers can seamlessly integrate millets into their daily routines. By offering delicious and *Dosha*-specific meal ideas, to empower individuals to embark on a journey of self-healing through mindful eating. This article reaffirms the timeless wisdom of Ayurveda in harnessing the nourishing and healing potential of millets. It encourages Ayurvedic practitioners and enthusiasts alike to embrace millets as an integral component of holistic health and wellness.

KEYWORDS: Ayurveda, Panchakarma, International year of Millets, Nutrition, Food

INTRODUCTION

Ayurveda, often referred to as the "Science of Life," offers a holistic approach to well-being that transcends the boundaries of time and culture. Rooted in ancient Indian wisdom, Ayurveda has always recognized the intimate connection between food and health. It emphasizes the importance of nourishing the body, not just with sustenance but with wisdom – wisdom that lies in understanding the unique constitution of each individual and the profound effects of different foods on their physical, mental, and spiritual equilibrium. In the contemporary world, where dietary trends and fads abound, the revival of millets has breathed new life into Ayurvedic nutrition. The International Year of Millets 2023 couldn't have come at a more opportune moment, casting a spotlight on these unassuming grains that have been cherished for millennia. Millets, often called "small grains with big potential," align harmoniously with Ayurvedic principles.

Article History

- ISSN: 2584-184X
- Received: 29 May 2024
- Accepted: 28 June 2024
- Published: 01 July 2024
- MRR:2(7) July 2024: 01-10
- ©2024, All Rights Reserved
- Peer Review Process: Yes
- Plagiarism Checked: Yes

Authors Details

Dr. Avvinish Narine¹

Ph.D. Scholar, Department of Panchkarma, National Institute of Ayurveda, (Deemed University), Jaipur, Rajasthan, India

Dr. Fatemeh Moazzamipeiro²

MD Scholar, Department of Maulik Siddhanta and Samhita, National Institute of Ayurveda, (Deemed University), Jaipur, Rajasthan, India

Prof. (Dr.) Gopesh Mangal³

Professor and HOD, Department of Panchkarma, National Institute of Ayurveda, (Deemed University), Jaipur, Rajasthan, India

Corresponding Author

Dr. Avvinish Narine*

Ph.D. Scholar, Department of Panchkarma, National Institute of Ayurveda, (Deemed University), Jaipur, Rajasthan, India

Ayurveda categorizes individuals into three primary *Dosha* - *Vata*, *Pitta*, and *Kapha* - each representing a unique combination of elements. Millets, like Ayurveda, honour this individuality by offering a spectrum of options that cater to diverse *Doshic* constitutions. This understanding forms the cornerstone of Ayurvedic nutrition, emphasizing that the same food may not suit everyone equally. Furthermore, Ayurveda recognizes that health isn't just the absence of disease but a state of vibrant well-being, and a balanced diet is pivotal in achieving this. The therapeutic potential of millets becomes evident when we delve into their nutrient profiles, uncovering an array of vitamins, minerals, and dietary fiber that not only satiates hunger but also fosters vitality [1]. These grains, once considered as "poor man's food," now emerge as potent allies in Ayurvedic therapeutics. In this exploration, we embark on a journey into the intersection of millets and Ayurveda, seeking to unravel the synergies between ancient wisdom and modern nutritional science. Together, they form a path to holistic health, one that transcends trends and aligns with the timeless principles of balance and harmony that Ayurveda embodies.

Understanding Millets Through Ayurvedic Nutrition [2]

Millets have gained increasing attention due to their rich nutritional composition and compatibility with Ayurvedic principles. Here, we delve into the scientific underpinnings of millets from an Ayurvedic perspective, focusing on their unique qualities and their potential to harmonize with individual *Doshic* constitutions. Millets encompass a diverse range of grains, according to Ayurveda those millets are foxtail millet, barnyard millet, kodo millet, proso millet, finger millet, adlay millet and sorghum millet [3]. Ayurveda categorizes individuals into three primary *Dosha*: *Vata*, *Pitta*, and *Kapha*, each representing distinct elemental compositions and physical and psychological characteristics. The Ayurvedic approach to nutrition emphasizes that individuals should tailor their diets to their *Doshic* constitution to maintain balance and promote health. Ayurvedic nutrition promotes personalized dietary recommendations to align with an individual's *Doshic* constitution and current imbalances. Understanding the *Doshic* properties of millets allows Ayurvedic practitioners to craft dietary plans that optimize health and well-being for their patients. For instance, an individual with a predominant *Pitta* constitution may be advised to incorporate cooling millets like pearl millet into their diet, particularly during hot seasons or when experiencing excess heat-related symptoms. In contrast, someone with a *Vata* constitution may benefit from the inclusion of warming and nourishing millets like foxtail millet, especially during the colder months.

Millets as Therapeutic Allies

Millets are celebrated not only for their versatility but also for their rich nutrient composition. From a scientific standpoint, these grains contain essential vitamins, minerals, dietary fibre, and macronutrients that offer a range of health benefits. When viewed through an Ayurvedic lens, these nutrient profiles can be linked to their potential to pacify or exacerbate specific *Doshas* [4]

Millets are notably high in dietary fibre, which supports digestive health. Ayurveda recognizes the importance of robust digestion (*Agni*) as a cornerstone of overall well-being. Millets contribute to healthy digestion by providing adequate dietary fibre, which can help balance aggravated *Vata Dosha* associated with digestive irregularities. Different millet varieties exhibit varying profiles of vitamins and minerals. For example, pearl millet is rich in iron and magnesium, while finger millet is a good source of calcium and antioxidants [5]. These micronutrients can be leveraged therapeutically to address specific *Doshic* imbalances. Ayurveda often suggests that opposites balance, and this principle applies to dietary choices. Millets with cooling qualities, such as pearl millet, can be used to pacify excess *Pitta Dosha*, which tends to be hot and inflammatory. Conversely, millets with warming attributes, such as foxtail millet, can help balance aggravated *Vata Dosha*, which tends to be cold and dry. The therapeutic use of millets is a hallmark of Ayurvedic dietary interventions. Scientifically, the nutrients in millets contribute to their potential therapeutic benefits. For example: the dietary fibre in millets supports regular bowel movements and helps alleviate constipation, making them beneficial for individuals with *Vata* imbalances characterized by irregular digestion. The cooling nature of certain millets can be harnessed to mitigate conditions associated with excess heat and inflammation, such as gastritis, acidity, or skin conditions. Millets with properties that align with *Kapha Dosha*, such as barnyard millet, can be integrated into dietary plans to address issues related to excess mucus production, weight gain, or sluggishness.

Practical Application in Ayurvedic Cuisine

Scientifically speaking, millets offer a plethora of culinary possibilities due to their diverse grain varieties. Traditional millet-based recipes provide an invaluable resource for those seeking to integrate millets into their daily diet while adhering to Ayurvedic principles [6]. Millet porridge, prepared by cooking millets with water or milk, is not only a comfort food but also nutritionally dense. From a scientific standpoint, millet porridge is a source of complex carbohydrates, fibre, vitamins, and minerals [7]. In Ayurveda, it can be customized by using specific millet varieties to align with one's *Doshic* (~bio-humor) constitution and *Agni* (~digestive fire) status. Millet khichdi, a one-pot dish comprising millets, lentils, and spices, exemplifies the blend of taste and nutrition. Scientifically, this dish combines millet's nutrient richness with protein from lentils, making it a well-rounded meal. Ayurvedically, spices can be chosen to enhance the therapeutic properties of the khichdi, tailoring it to specific health needs. Scientifically, mindful eating has been linked to improved digestion, better nutrient absorption, and overall well-being [8]. Ayurveda places a strong emphasis on conscious and mindful eating as it aligns with these scientific findings. When incorporating millets into Ayurvedic cuisine, adhering to mindful eating principles is paramount. Ayurveda advocates selecting foods that are in season and locally sourced. This approach resonates with scientific research that suggests that such foods may contain higher nutrient levels and are better suited to the body's needs. Ayurveda provides guidelines on food

combinations to support optimal digestion. For instance, combining millets with vegetables and appropriate spices can enhance nutrient absorption and mitigate digestive discomfort. Ayurvedic cooking principles allow for the customization of millet-based dishes to balance individual *Doshas*. The choice of spices, cooking methods, and millet varieties can be tailored to align with one's constitution.

Nutritional Content^{[9][10]} of Millets and Their Attributes^{[11][12]}:

1. Foxtail Millet (*Kangni*), [*Setaria Italica* (L.) P. Beauvois]^[13]:

- a. **Nutritional Highlights:** These seeds are rich in vitamins and phytochemicals, particularly polyphenols, providing

- b. additional health benefits. In a 100g serving, they offer 351 kcal of energy, 12.3 g of protein, 60.9 g of carbohydrates, 4.3 g of fat, and 8.0 g of crude fiber, along with a mineral content of 3.3 g.
- c. **Attributes:** *Guru* (~heavy to digest), *Sangrahi* (~absorbs excess bodily fluids and aids in normal faeces formation and enhances the digestion), *Brumhana* (~nourishes the bodily tissues), *Shoshana* (~dries up excess moisture), *Bhagnasandhanakrit* (~bone fracture healing), *Durjara* (~difficult to digest) and *Vrishya* (~aphrodisiac).



Figure 1: Foxtail Millet

2. Barnyard Millet (*Sanwa*), [*Echinochloa crusgalli* (L.) P. Beauvois]^[14]:

- a. **Nutritional Highlights:** a highly digestible, protein-rich grain with substantial dietary fiber. Its low and slowly digestible carbohydrate content makes it a natural choice for those with sedentary lifestyles. Rich in linoleic acid and

showing amylase retrogradation, it forms resistant starches, potentially benefiting individuals with cardiovascular disease and diabetes. Barnyard millet is effective in reducing blood glucose and lipid levels, making it an ideal food for the growing issue of diabetes. It is also suitable for gluten-

intolerant individuals, addressing concerns related to celiac disease.

b. Attributes: *Shoshana* (~absorbs excess fluid), *Rukshana* (~drying nature), *Vatala* (~increases *Vata Dosha*), *Kapha*

c. Pitta Hrita (~pacifies *Kapha/Pitta Dosha*), *Sangrahi* (~absorbs excessive fluids thus aids in normal faeces formation & enhances digestion), *Dhatu Shoshaka* (~dries up body tissues).



Figure 2: Barnyard Millet

3. Kodo Millet [*Paspalum scrobiculatum* (L.)]

a. Nutritional Highlights: Kodo millet is a nutritional staple with high protein, low fat, and significant fiber content. It's easy digestibility, richness in lecithin, and contributions to nervous system strengthening make it noteworthy. The millet is a source of B vitamins (niacin, B6, folic acid) and essential minerals (calcium, iron, potassium, magnesium,

zinc). Importantly, it is gluten-free, catering to individuals with gluten intolerance.

b. Attributes: *Madhura-Tikta Rasa* (~Sweet-bitter taste), *Guru* (~heavy for digestion), *Param Graahi* (~absorbs excessive fluids and helps for normal formation of feces), *Avrishya* (~anaphrodisiac), *Pathya in Vrana* (~good food in wounds and ulcers). It can also be given as a substitute for rice to diabetic patients.



Figure 3: Kodo Millet

4. Proso Millet (*Cheena*)^[15]:

a. **Nutritional Highlights:** Proso millet is a gluten-free grain rich in potassium, phosphorus, zinc, and polyphenols, making it suitable for those with gluten intolerance or celiac disease. In a 100g serving, proso millet provides 309 kcal of energy, 8.30 g of protein, 65.90 g of carbohydrates, 9.00 mg

of crude fiber, and essential minerals including calcium, iron, potassium, magnesium, and phosphorus.

b. **Attributes:** *Guru* (~heavy to digest), *Slakshna* (~smoothness), *Durjara* (~difficult to digest), *Brumhana* (~nourishes the body tissues), *Bhagna-Sandhanakara* (~promotes bone fracture healing).

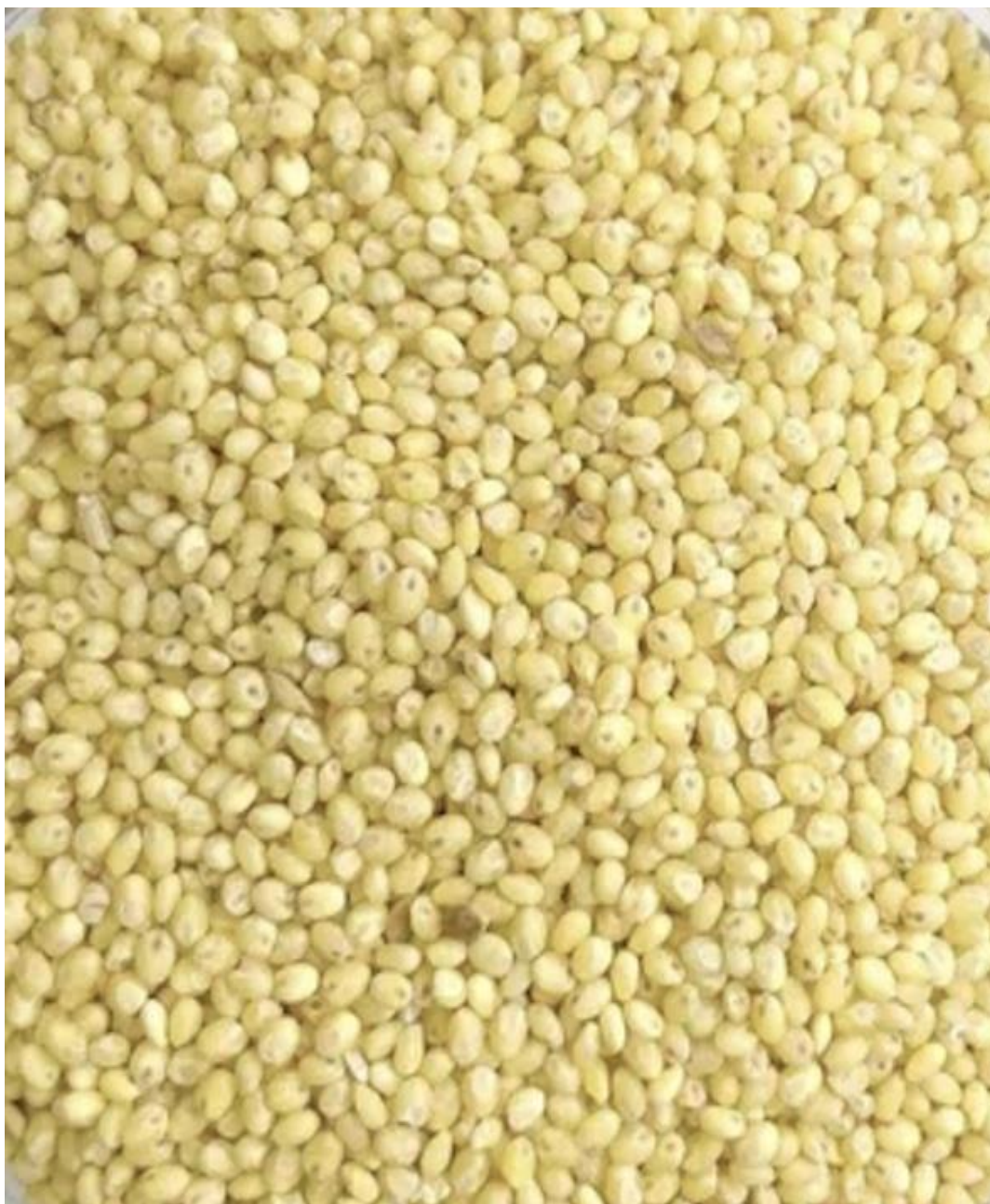


Figure 4: Proso Millet

5. **Finger Millet (*Ragi*), [*Eleusine coracana* (L.) Gaertn]^[16]:**

- a. **Nutritional Highlights:** In a 100g serving, it provides 328 kcal of energy, 7.30 g of protein, 72 g of carbohydrates, 1.30 g of fat, and 11.50 g of dietary fiber. Rich in essential nutrients, it contains 3.9 mg of iron, 11 mg of sodium, 344 mg of calcium, 408 mg of potassium, and 42 µg of carotene. The potassium content supports kidney and heart function, aids in brain and

muscle coordination, promotes digestion, contributes to heart health, and may reduce the risk of colon cancer due to its antioxidant properties.^[17]

- b. **Attributes:** *Tikta* (~bitter), *Madhura* (~sweet), *Kashaya*, (~astringent), *Sheeta* (~cold in potency), *Snigdha* (~unctuousness), *Balya* (~promotes strength), *Vrishya* (~aphrodisiac).



Figure 5: Finger Millet

6. Adlay Millet (Gavedhuka, Jau) [*Coix lacrym-jobi* L.]:

a. Nutritional Highlights: It promotes cardiac health by helping maintain healthy cholesterol levels and possesses antioxidant properties, contributing to overall well-being and supporting a healthy digestive system.

b. Attributes: *Katu* (~pungent taste), *Laghu* (~light to digest), *Ruksha* (~dry), *Katu Vipaka* (~pungent taste after digestion), *Kapha-Pitta Hara* (~reduces *Kapha* & *Pitta Dosha*).



Figure 6: Adlay Millet

7. Sorghum Millet (Jowar), [*Sorghum bicolor* (L.) Moench]:

- a. Nutritional Highlights:** In a 100g serving, these grains provide valuable nutrition, including 10.4 g of protein, 70.7 g of carbohydrates, 3.1 g of fat, and 1.2 g of minerals, such as 25 mg of calcium and 222 mg of phosphorus. Rich in various vitamins, minerals, and dietary fiber, these grains also act as a potent source of antioxidants, potentially inhibiting tumor growth and

reducing blood cholesterol levels. They are a natural dietary choice for diabetes patients, aid in weight control, and serve as a staple food for individuals with celiac disease.

- b. Attributes:** *Avrishya* (~antaphrodisiac), *Ruchya* (~enhances perception of taste), *Trishghna* (~pacifies excessive thirst) *Kledaghna* (~pacifies excess moisture content).



Figure 7: Sorghum Millet

DISCUSSION

Uniting Millets and Ayurveda for Holistic Health

Scientifically, this article has elucidated the remarkable synergy between millets and Ayurveda. Millets' diverse nutrient profiles and *Dosha*-specific qualities align harmoniously with Ayurvedic principles of personalized nutrition. This alignment reflects the scientific understanding that dietary choices can profoundly influence health outcomes. Millets are a rich source of vitamins, minerals, dietary fibre, and macronutrients, scientifically highlighting their potential to address specific nutritional deficiencies and promote overall vitality. Ayurveda's recognition of individual *Doshas* and their interactions with food resonates with the scientific concept of personalized nutrition. Millets offer *Dosha*-specific attributes, as mentioned above; enabling tailored dietary interventions for optimal health. Scientifically, millets' therapeutic potential in addressing common health concerns, such as digestive disorders, inflammation, and weight management, is evident. Ayurveda harnesses this potential by recommending millets as a dietary adjunct in addressing *Dosha* imbalances.

Practically incorporating millets into daily life may pose challenges. Scientifically, these challenges include sourcing millets, mastering cooking techniques, and navigating *Dosha*-specific dietary choices. However, the scientific analysis demonstrates that these challenges are surmountable with

guidance and perseverance. The scientific understanding is that millets may not be as readily available as mainstream grains, which may require individuals to explore alternative sources and advocate for greater accessibility. Scientifically, cooking methods for millets may differ from those used for more familiar grains. However, these skills can be acquired with practice and education, ensuring that individuals can harness the full potential of millets. Ayurvedic practitioners play a pivotal role in offering personalized guidance, scientifically enhancing the efficacy of millet-based interventions. Encouraging individuals to seek professional advice is essential to navigating *Dosha*-specific recommendations. Scientifically, this discussion underscores the ecological and ethical dimensions of millet consumption, aligning with Ayurveda's emphasis on conscious living. The sustainability of millet cultivation and their minimal environmental footprint reinforce the holistic approach of Ayurveda. Scientifically, millets' resilience and reduced resource requirements make them a sustainable choice for agriculture, conserving water and minimizing the use of pesticides. This aligns with modern agricultural sustainability principles. Ayurvedic principles of mindful eating scientifically promote responsible consumption and a deeper connection to food sources. These practices resonate with modern sustainability efforts to reduce food waste and make conscious dietary choices.

CONCLUSION

In the tapestry of Ayurveda and the humble grains known as millets, we find a profound conclusion that millets are not merely grains; they are conduits of holistic well-being, bridging the physical, mental, and spiritual dimensions of existence. Scientifically, these grains offer rich nutritional profiles, each with *Dosha*-specific attributes, mirroring the personalized approach of Ayurveda. Pearl millet cools the fiery excesses of *Pitta*, foxtail millet warms and stabilizes *Vata* imbalances, and finger millet provides nourishment while harmonizing *Kapha*. This nutritional diversity aligns with Ayurveda's wisdom, and when embraced consciously, millets become allies on our journey toward balance, health, and vitality. They invite us to harmonize with the profound interconnectedness of all existence, dancing to the rhythms of holistic living and the timeless wisdom of Ayurveda.

REFERENCES

1. Belavady B, Gopalan C, Narayana Rao M, Venkatachalam PS. Nutritive value of Indian foods. National Institute of Nutrition, Indian Council of Medical Research. 1976.
2. Shah P, Dhir A, Joshi R, Tripathy N. Opportunities and challenges in food entrepreneurship: In-depth qualitative investigation of millet entrepreneurs. *J Bus Res.* 2023;155:113372.
3. Sutrasthana A. Charaka Samhitha. Acharya VJT, editor. Delhi: Chaukhamba Prakashan; 2011. p. 154–5.
4. Dwivedi S, Gaur MB, Upadhyay P, Deshpande SS, Keshri MK. Role of Aahar and Millet in Health.
5. Hema KP, Reddy PS, Reddi Sekhar M, Urooj A. Dietary fiber content of some Indian millets. *Int J Food Sci Nutr.* 2002;53(3):331-5.
6. Kumar V, Sinha AK, Makkar HP, Becker K. Dietary roles of phytate and phytase in human nutrition: A review. *Food Chem.* 2010;120(4):945-59.
7. Shukla TP, Bushuk W. Cereal proteins: Chemistry and food applications. *Crit Rev Food Sci Nutr.* 1975;6(1):1-75.
8. Gopalan C, Rama Sastri BV, Balasubramanian SC. Nutritive value of Indian foods. National Institute of Nutrition, Indian Council of Medical Research. 2007.
9. Gopalan C, Rama Sastri BV, Balasubramanian SC. Nutritive value of Indian foods. National Institute of Nutrition, Indian Council of Medical Research. 2007.
10. Belavady B, Gopalan C, Narayana Rao M, Venkatachalam PS. Nutritive value of Indian foods. National Institute of Nutrition, Indian Council of Medical Research. 1976.
11. Murthy S, editor. Bhavaprakasha. Varanasi: Chowkhamba Krishna Das Academy; 2011. p. 374-7.
12. Kaiyadeva Nighantu (Pathyaapthya vibhodika). Varanasi: Choukambha Orientalia; 2009. p. 318-21.
13. Sivakumar V, Subramanian R. Comparative nutritional evaluation of foxtail millet (*Setaria italica*) and finger millet (*Eleusine coracana*) genotypes for different ages of rats. *Food Chem.* 2015;170:303-10.
14. Kaur H, Sharma S. An overview of Barnyard millet (*Echinochloa frumentacea*). *J Pharmacogn Phytochem.* 2020;9(4):819-22.
15. Johnson M, Deshpande S, Vetriventhan M, Upadhyaya HD, Wallace JG. Genome-wide population structure analyses of three minor millets: Kodo millet, little millet, and proso millet. *Plant Genome.* 2019;12(3):190021.
16. Shobana S, Krishnaswamy K, Sudha V, Malleshi NG, Anjana RM, Palaniappan L, et al. Finger Millet (Ragi, *Eleusine coracana* L.): A Review of Its Nutritional Properties, Processing, and Plausible Health Benefits. *Adv Food Nutr Res.* 2013;69:1-39.
17. Shobana S, Harsha MR, Platel K, Srinivasan K, Malleshi NG. Amelioration of hyperglycaemia and its associated complications by finger millet (*Eleusine coracana* L.) seed coat matter in streptozotocin-induced diabetic rats. *Br J Nutr.* 2010;104(12):1787-95.