Exploring Potential of Pearl Millet (*Pennisetum glaucum* L.) in Prevention and Management of *Santarpanjanya Vyadhi*: A Literature Review

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Abstract: *Ayurveda* is known as the Science of Life. It not only describes medicines for treating diseases but also provides detailed explanations of food items that promote good health. Ayurveda encompasses both preventive and curative medicine, as it is commonly said that prevention is better than cure. Describing the importance of diet in *Ayurveda*, it is referred to as *'Trayaupstambh'* and also known as *'Mahabhaishajya.*' The risk of non-communicable diseases (NCD) is increasing due to today's food habits and lifestyle. In Ayurveda, it is placed under *'Santarpanjanya Viyadhi*.' In order to prevent these illnesses, Ayurveda suggests the consumption of *Vaatkar*, *Ruksha*, and low-calorie foods. Among these options, *Trina Dhanya*, which refers to Millets, stands out as a prominent traditional dietary choice. *Bajra*, alternatively known as Pearl Millet, African Millet, or Spiked Millet, originally hails from the northern-central Sahel region of West Africa. Its introduction to the Indian subcontinent dates back 2500 years. Notably, *Ayurvedic* texts beginning from the 14th century AD refer to it as *'Vajranna*' within the category of *Truna Dhanya or Kudhanya Vargas*. The current review of both Ayurvedic texts and modern literature analyzes the rational use of Pearl Millet, an important millet in the prevention and management of *Santarpanjanya Vyadhi*, with its probable modes of action as per both sciences.

Keywords: *Pennisetum glaucum*; Pearl Millets; *Trinadhanya santarpanjanya*

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1 Introduction

Pearl millet (*Pennisstum glaucum*) is a multifunctional cereal crop that belongs to the Poaceae family. It's generally appertained to in colorful original Indian languages as *bajra, bajri, sajje, kambu, kamban, sajjalu*, etc. It's extensively used for food and probe [1]. Pearl millet is the third- largest major crop after rice and wheat in India. It was cultivated over an area of 7.4 million hectares, comprising 9.13 million tons, in 2017 – 2018 [2]. Rajasthan, Maharashtra, Gujarat, Uttar Pradesh, and Haryana are the largest plum millet- growing countries in the country [3].

Bajra, scientifically linked as Pennisetum glaucum (L.) R. Br., represents a promising millet variety grown in dry andsemi-arid regions of India (figure 1). It holds the distinction of being the alternate most considerably cultivat-

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ed and employed millet within the nation. This cereal crop also holds significance in West Africa and gests wide civilization in Eastern and Southern Africa. The most ancient archaeological evidence of cultivating plum millet was exhumed in Mali, dating back roughly 4,500 times. The Typhoides bracket encompasses the remnants of the foremost cultivated plum millets. These grains have garnered attention in salutary practices due to their cost- effectiveness, nutritive value, and gluten-free nature.

Bajra (*Pennisetum glaucum* (L.) R. Br.), recognized as pearl millet, African millet, or rounded millet, is denoted as *'Nali'* under *Trunadhanya or Kudhanyavarga* in *Ayurvedic* literature. The nutritional attributes of bajra have recently been investigated, and it is extensively employed as a valuable high gluten-free alternative. It finds utility in addressing coeliac ailments and other gluten aversions globally [4]. Millets, encompassing diverse regions of the world, are whole grains. Presently, individuals are progressively conscientious about healthful practices to counter metabolic disorders and living conditions. Millets have garnered global attention due to the surge in diabetes. The Taxonomical classification is describe in (table 1) given below. [5]

Table 1 Taxonomic classification

Kingdom	**Plantae**
Subkingdom	Viridaeplantae Infra-kingdom: Streptophyta Super-division Embryophyta Division: Tracheophyta
Subdivision	Spermatophytina
Class	Magnoliopsida
Subclass	Commelinidae
Super order	Lilianae
Order	Poales
Family	Poaceae (Grass Family)
Genus	Pennisetum L.
Species	*Pennisetum glaucum* (L.) R. Br.

2 Botanical Synonyms

1) Panicum glaucum L.
2) Setaria glauca (L.) Beauv.
3) Pennisetum typhoideum Rich.
4) Panicum indicum Mill.
5) Pennisetum americanum (L.) K. Schum.
6) Pennisetum spicatum (L.) Roem. & Schult.

2.1 Botanical Description

Pearl millet, a constituent of the Poaceae botanical family, embodies a robust cyclic grass with the capacity to attain altitudes surpassing 4 meters (as illustrated in Figure 1). It features elemental and nodal branching. Its subterranean structure manifests notable expansiveness, occasionally yielding the emergence of potent aerial roots from subterranean protuberances. The stems, slender in constitution and measuring 1 to 3 centimeters in diameter, remain consistently cloaked in villous hairs beneath the panicle, punctuated by discernible protuberances. The leaves, positioned in an alternating arrangement, assume a simplistic morphology. The ligulate sheath commonly bears a hirsute texture, while the ligule itself is abbreviated and membranous, bordered by a fringe of pilose elements. The blade takes on a direct to direct-lanceolate form, attaining lengths exceeding 1.5 meters and spans of 8 centimeters. It is frequently enshrouded in delicate hairs, exhibits broadly serrated margins, and exudes a genially coarse texture.

The flowering structure adopts the guise of a spherical, contracted, rigid, and compact panicle, evoking the image of a shaft, with the potential to extend up to 200 centimeters in length. The central axis presents as spherical, bearing densely clustered assemblages of 1 to 5 spikelets, subtended by an accumulation (involucres) of up to 90 bristles, roughly equivalent in length to the spikelets. In certain cultivars, numerous rigid bristles may extend up to 2 centimeters in length. The spikelets themselves, obovate in shape, measure 3 to 7 millimeters in length and typically unfold into 2 segments. These comprise two glumes, the lower one measuring approximately 1 millimeter in length and the upper one approximately 2.5 millimeters long. The lower floret is male or non-functional, while the upper one is hermaphroditic. The lemma exhibits an elliptical form and is fringed with pubescence along its periphery, whereas the palea reaches nearly equal length as the lemma. Lodicules are conspicuously absent. The presence of three stamens, each bearing anthers measuring 2 to 5 millimeters in length, is characterized by their slanted orientation adorned with hair-like appendages. The ovary, elevated and obovoid, exhibits a smooth surface, embellished with two pilose regions united at the base. The fruition takes the form of an independent caryopsis (grain), which can assume globose, spherical, or conical shapes, ranging from 2.5 to 6.5 millimeters in length. Pearl millet displays a diverse palette of colors, encompassing hues ranging from white, purplish, subdued, slate-blue, brown, and occasionally, even resplendent shades. As maturation progresses, a distinct dark mark emerges at the hilum [6].

2.1.1 Global production of Pearl Millet

Pearl millet (*Pennisetum glaucum* (Figure 2) [7] began in Central tropical Africa and is extensively distributed in drier tropical regions, including India. It was introduced into Western countries in the 1850s and came established as a minor probe crop in the Southeast and Gulf Coast states. The factory was likely tamed as a food crop some 4000 to 5000 times ago along the southern perimeters of the Central mounds of the Sahara. Since also, it has come extensively distributed across the semiarid tropics of Africa and Asia. Pearl millet has traditionally been an important grain, probe, and stover crop primarily in thirsty and tropical regions of numerous developing countries. As plum millet civilization expands intonon-traditional areas in temperate and advanced countries, product constraints from conditions are getting more significant. still, the dispersion of accurate information on crop conditions has not kept pace with the increased interest in plum millet as a feasible crop in thesenon-traditional areas. Pearl millet, distinguished by its robust adaptability, thrives in regions marked by adversity, encompassing factors such as crop failure, impoverished soil fertility, and elevated temperatures. This resilient grain demonstrates remarkable prowess even in environments characterized by heightened salinity or diminished pH levels within the soil. It is noteworthy that owing to its remarkable endurance in the face of formidable growth challenges, pearl millet finds its niche in locales where the survival prospects of conventional cereal crops, such as rice or wheat, would be untenable [8].

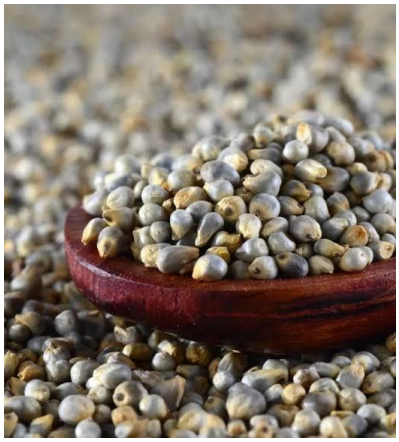

Figure 1 Bajra Seed

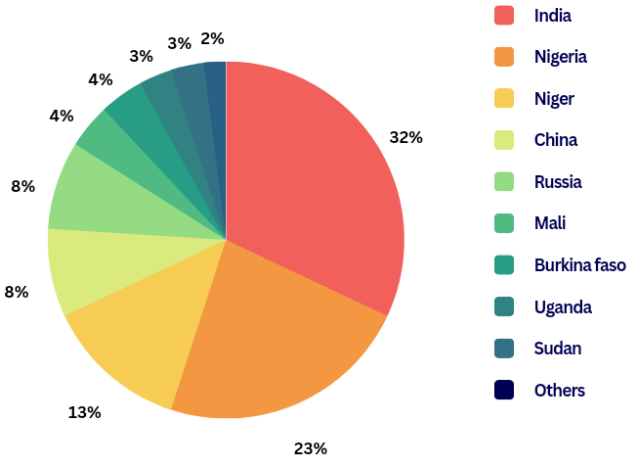

Figure 2 Country Wise Pearl Millet production rate

Pearl millet as nutricereal

Pearl millet holds the rightful designation of a "nutricereal" due to its rich composition of energy, carbohydrates, proteins, fats, ash, beneficial fiber, iron, and zinc. It provides significant energy content (361 Kcal per 100g), comparable to oats (349 Kcal per 100g), wheat (346 Kcal per 100g), rice (345 Kcal per 100g), and maize (325 Kcal per 100g). The carbohydrate content of pearl millet is 67.5 g per 100g, with 56 to 65% comprising 20 to 22% amylose and 2.6 to 2.8% free sugars, mainly sucrose. It possesses substantial fiber (1.2 g per 100g) and demonstrates (α) amylase activity.

In terms of protein, it contains 11.6 g per 100g, akin to wheat but surpassing rice. While rich in methionine, it's deficient in sulfur-containing amino acids. Remarkably, pearl millet, with minimal prolamine, is gluten-free and retains alkalinity post-cooking, a boon for those with gluten sensitivities. Its fat content is noteworthy at 5 mg per 100g, characterized by superior fat quality and substantial unsaturated fatty acids (75), including nutritionally vital n-3 fatty acids.

Rich in vitamins and minerals, pearl millet boasts an overall mineral content of 2.3 mg per 100g, encompassing potassium, phosphorus, magnesium, iron, zinc, copper, and manganese. It's also abundant in B-vitamins like thiamine, riboflavin, and niacin. Notably, pearl millet takes precedence among Indian millets, followed by sorghum and finger millet. Recognized as climate-resilient and nutritionally dense, millets are fittingly termed "Nutricereals."

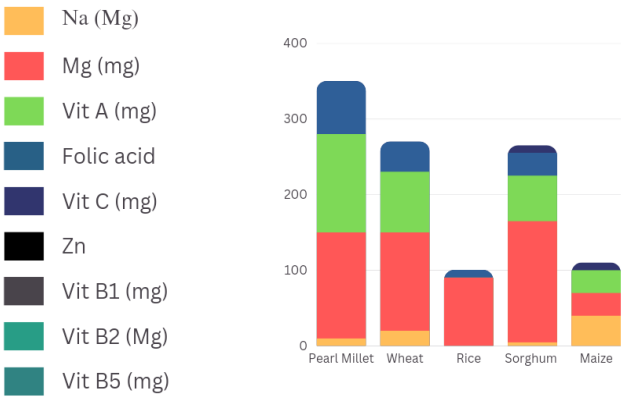

Figure 3 Comparative Evaluation of Micronutrient Composition in Pearl Millet vis-à-vis Wheat, Rice, Sorghum, and Maize [10]

To elevate millets' presence and promote their cultivation, the Government of India has included pearl millet in the Public Distribution System (PDS). The year 2018 was declared the "Year of Millets." The All India Coordinated Research Project on Pearl Millet (AICRP-PM), overseen by the Indian Council of Agricultural Research (ICAR), drives pearl millet research in India. The ICAR-AICRPPM encompasses a network of 14 AICRP centers across various states [5]. Comparative Evaluation of Micronutrient Composition in Pearl Millet vis-à-vis Wheat, Rice, Sorghum, and Maize was shown in figure 3. [7]

2.1.2 Nutritional Value of Pearl Millet

It is renowned for being a substantial reservoir of minerals and vitamin B. Furthermore, they exhibit a wealth of minor constituents such as phenolics, phospholipids, and fatty oils. The abundance of starch, protein, fiber, niacin, magnesium, phosphorus, manganese, iron, potassium, indispensable amino acids, and vitamin E contributes to the pivotal role of millets as a vital nutritional resource. Within the composition of pearl millets, a distinctive amalgamation of lustrous yellow lipid oil (quantified at 5.23%) is discernible, embodying a delicate equilibrium of α-Linoleic acid (at a ratio of 45.6%), Oleic acid (at a proportion of 28.5%), and Palmitic acid (comprising 20.6%). Among the more subtle constituents, we encounter minor yet noteworthy fatty components, inclusive of Linolenic acid (present at 2.1%) and Stearic acid (constituting 1.5%).

The presence of Linolenic acid, albeit in a modest amount, assumes significance due to its classification as an essential fatty acid. This particular compound transcends mere chemical nomenclature, exhibiting practical utility in an array of physiological contexts. It emerges as a vital ally in addressing conditions spanning from rheumatoid arthritis to cardiac arrhythmias and even extending to the realm of mood disorders like depression. Moreover, its role as a mitigating factor against the peril of ischemic and thrombotic stroke underscores its therapeutic resonance [5]. Pearl Millet Nutritional value is shown in table 2 [9].

Table 2 Nutritional value of Pearl Millet. [12]

Nutrients		**Amount**
Basic Components	Proteins	22 g
	Water	17.3 g
	Ash	6.5 g
Calories	Total Calories	756 cal
	Calories from Carbohydrates	600 cal
	Calories from Fates	71 cal
	Calories from Proteins	85.3 cal
Carbohydrates	Total Carbohydrates	146 g
	Dietary Fibre	17 g
Fatty acids	Total Fat	8.4 g
	Saturated Fat	1.4 g
	Monounsaturated Fatty Acid	1.5 g
	Polyunsaturated Fatty Acid	4.3 g
	Omega-3 Fatty Acids	236 mg
	Omega-6-Fatty Acids	4 g
Vitamins	Vitamin E	100 µg
	Vitamin K	1.8 µg
	Thiamine	842 µg
	Riboflavin	580 µg
	Niacin	9.4 mg
	Vitamin B6	768 µg
	Foliate	170 µg
	Pantothenic Acid	170 µg
Minerals	Calcium	16 mg
	Iron	6 mg
	Magnesium	228 mg
	Phosphorus	570 mg
	Potassium	390 mg
	Sodium	10 mg
	Zinc	3.4 mg
	Copper	1.5 mg
	Manganese	3.3 mg
	Selenium	5.4 µg
Amino Acids (g/100 g protein)	Leucine	10.7
	Isoleucine	4.4
	Valine	4.9
	Threonine	4.0
	Arginine	4.6
	Lysine	3.1
	Methionine	1.1
	Cisteine	1.5
	Tryptophan	1.4
	Glutamic Acid	23.0
	Alanine	8.7
	Proline	5.8

2.2 Trindhanya in Ayurveda

Millet grains are commonly termed Kudhanya, a nomenclature possibly attributed to their diminutive grain size and relatively lower popularity among the wider public [10, 11] Belonging to the Poaceae family, universally acknowledged as the grass family, these grains are appropriately classified as Trina (referring to "grass") dhanya (meaning "grains").

Key characteristics of Trinadhanya:

According to Acharya Sushrut, the fundamental attributes of Trinadhanya are described as Kashaay (having an astringent taste) and Madhur (sweet in digestion and bitter in taste). They have the tendency to increase Vata and Piita doshas, while decreasing Kapha dosha. Additionally, they exhibit qualities of being Ushna (warm in potency), Ruksha (inducing dryness in the body), and possessing Kat Vipaki (post-digestive effect with a pungent taste) after consumption (Table 3).

2.3 Bajra (Pearl Millet) In Ayurveda

Approximately 2500 years ago, Bajra, or pearl millet, is believed to have found its passage to the Indian subcontinent. However, it is noteworthy that references to this cereal only emerge in Ayurvedic literature beginning from the 14th Century AD onwards. Referred to as "Nali" in Sanskrit, the earliest allusion to this term is traceable to the Madanapala Nighantu of 1374 AD [12]. encompassing the category of Truna Dhanyas (Poaceae). Within this text, the author imparts general attributes of Truna dhanyas, albeit without delving extensively into the specific characteristics of *Nali.*

The *Nighantu Ratnakara*, an opus from the 18th century [13], offers a more comprehensive elucidation of *Bajra*, delving deeper into its intricacies. As time progressed into the 19th Century, literary works such as the *Priya Nighantu* delve into *Bajra* and its distinctive traits, using the term "*Vajranna*". [14]

Various appellations have been coined to denote the *Bajra* millet, encompassing a spectrum of monikers such as *Nali, Nalika, Nilakana, Nilasasya, Agradhanya, Sajjaka, Varjari, Varharika, Vajranna, and Barjaree*, each capturing a facet of its essence [15].

Table 3 Ayurvedic properties of millets

Pearl millet (*bajra*) properties	
Ras (taste)	***Madhur***
Vipak (taste after digestion)	*Katu*
Veerya (potency)	*Ushna*
Guna	*Guru*
Karma	*Balya, punsatavhar, agnideepak*
Effect on dosha	*Vattapittakarak*
Effect on dhatu	*Medohar (reduces Meda), Kleda shoshan (absorb fluids)*

Vajranam madhuram rookshamushnam balyaam cha durjaram.

Madhuram Ra Vaatpittakaram Punstvaharamagnipradeepnam ॥ (priyvat sharma).

Bajra-padi, beneficial to the heart, strengthening, brightening, agni dharma, ruva, angering the bile, increasing the work of women, asthma falling in it, destroying masculinity and nourishment.

This is a food that destroys Vata and Kapha diseases. [17]

2.4 Properties of Nali/Vajranna

According to *Sushruta*, *Nali* is characterized by a *Madhura Rasa* (pleasant taste), being *Ruksha* (dry) and *Laghu* (light), possessing *Ushna Veerya* (warm potency with catabolic effects), and exhibiting *Katu Vipaka* (pungent post-digestive effect). It's recognized to perturb *Vata* and *Pitta* equilibrium as found in the *Madanapala Nighantu* [15] and *Priya Nighantu* [17].

Moreover, it functions as a *Shleshmahara* (balancing Kapha Dosha). *Nali's* additional attributes and actions encompass *Balya* (strengthening), *Durjara* (challenging digestion), *Pumstvahara* (anti-aphrodisiac), *Vilekhana* (exfoliating), and *Baddhanisyanda* (inducing desiccation and fluid accumulation)[16]. However, *Nighantu Rathnakara* presents an alternate viewpoint. Nalika is noted for its *Katu* and *Tikta Rasa* (sharp and bitter tastes), alongside *Madhura*. *Bajra's* potency is described as *Sheetoshna,* accompanied by *Teekshna Guna*. *Nighantu Rathnakara* suggests that *Bajra* alleviates *Vata* and *Pitta*, contradicting *Priya Nighantu's* stance [17]. Conditions believed to benefit from *Bajra* include *Raktapitta* (bleeding disorders), *Krumi* (worm infestations), *Visha* (poisoning), *Shula* (gastrointestinal ulcers), *Ashmari* (stone formation), *Mutrakrucchra* (painful urination), *Raktadosha* (blood disturbances), *Trusha* (indigestion), *Kandu* (itching), *Jvara* (fevers), *Vrana* (wounds and ulcers), and *Durnama* (hemorrhoids) [16]. These lesser-regarded cereal grains manifest qualities of heat, astringency, sweetness, and dryness, developing a sharp taste after digestion. They contribute to *Kapha* reduction, hinder urine filtration, and exacerbate *Vata* and *Pitta* imbalances [16].

3 Effect on Mortal Body

A range of conditions experience alleviation through the consumption of *Bajra*, including *Raktapitta* (hemorrhagic disorders), *Krumi* (parasitic infestations), *Shula* (abdominal pain), *Ashmari* (calculi), *Mutrakrucchra* (painful urination), *Raktadosha* (blood-related disturbances), *Trushna* (indigestion), *Kandu* (itching), *Jvara* (fever), *Vrana* (injuries and ulcers), and *Durnama* (hemorrhoids). Millets offer therapeutic advantages that encompass the prevention of cardiovascular ailments, diabetes, migraines, and untimely demise [5]. Notably, Pearl millet stands as a distinctive entity due to its multifaceted nutritional merits, owing to its abundant mineral and protein composition. It presents a substantial protein concentration and is enriched with essential minerals such as magnesium, phosphorus, and zinc, among others. Furthermore, it supplies crucial amino acids and vitamins that contribute to diverse health treatments (as depicted in Figures 4 and 5) [17].

Figure 4 Properties of Pearl Millet.

3.1 Pharmacological Action of Pearl Millet

Millets fall within the category of Kudhanya, a term derived from 'Kutsitadhanya,' meaning something considered contemptible. They are known for their abundant reserves of minerals and vitamin B. Additionally, millets boast minor constituents such as phenolics, phospholipids, and fatty oils. Their substantial content of starch, protein, fiber, niacin, magnesium, phosphorus, manganese, iron, potassium, essential amino acids, and vitamin E positions millets as a crucial source of nutrition. Pearl millets, in particular, contain a rich golden-yellow fatty oil (5.23%), α-Linoleic acid (45.6%), Oleic acid (28.5%), and Palmitic acid (20.6%). Linolenic acid (2.1%) and Stearic acid (1.5%) serve as secondary fatty acids. Notably, Linolenic acid is an indispensable fatty acid with applications in

alleviating conditions like rheumatoid arthritis (anti-inflammatory properties), managing cardiac arrhythmias (anti-arrhythmic effects), combating depression (antidepressant qualities), and reducing the risk of ischemic and thrombotic stroke (anticoagulant benefits). [5]

3.2 Culinary Use

Figure 5 Roti, Sindh

India commenced the cultivation of pearl millet around 1500 to 1100 BCE. The exact manner in which it was introduced to India remains uncertain. Among Indian states, Rajasthan takes the lead in pearl millet production [18].

Pearl millet finds multifaceted utilization across culinary landscapes. Notably, it forms the core ingredient for crafting bhakri flatbreads, a culinary tradition observed. An intriguing facet manifests in the Tamil porridge known as kamban choru or kamban koozh, derived from the artful boiling of pearl millet. Within the Rajasthani culinary tapestry, a notable delicacy termed *bajre* ki khatti rabdi emerges, ingeniously melding pearl millet flour and yogurt. This delectable offering often graces tables during the summer months, adorning meals as a side dish.

In diverse regions, the narrative of pearl millet-inspired gastronomy unfolds distinctively. In the Punjab, Rajasthan, and Haryana, it is elegantly transmuted into the revered *bajre* ki roti, while Maharashtra bestows it the title of bajrichi bhakri. Gujarat embraces its culinary prowess with *bajra* no rotlo, each of these variants standing as testament to the artistry of flatbread creation. Harmonizing these creations are the ever-complementary partners of kadhi and bhaaji, enriching the culinary experience.

A resounding echo of this narrative reverberates in Tharparkar, Sindh, where a kinship is found in the form of bajhar ji maani. Namibia's northern heart is nurtured by the preparation of Oshifima, a culinary cornerstone sculpted from pearl millet flour.

Karnataka, meanwhile, unveils Sajje, its local name for pearl millet, predominantly cultivated in the semi-arid terrains of North Karnataka. Here, Sajje Rotti makes its appearance, a splendid flatbread that graces plates alongside Yennegai (stuffed brinjal) and yogurt, imparting a harmonious symphony of flavors.

Across the expanse of Tamil Nadu, Kambu, known as pearl millet, takes on profound significance. The ardor for this grain is palpable during the sweltering months of February to May. During this period, Kambu assumes diverse forms, from gruel sipped alongside buttermilk to its metamorphosis into dosa and idly dishes.

In the Northern Indian states, the mantle of pearl millet is donned as bajra [19]. Further epitomizing its versatility. Bajra flour emerges as a veritable muse for culinary innovation, resulting in a spectrum of creations ranging from Laddus and Papdi to Tikki, biscuits, and Pua [20].

4 Discussion

Ruksha Guna - A substance that induces dryness is characterized as having a rough quality according to *Hemadri* (A. Hr. Su. 1/18). While possessing a rough quality, it also acts as a *Kaphahara* (Bh. Pr. 6/203). However, roughness might also have an opposite effect, particularly if it leads to harsh erection (Su. Su. 46/516). The rough property is most effective in eliminating phlegm and promoting air circulation. This quality prevents substances from sticking together and facilitates their separation.

Ushna Virya - A majority of millets possess *Ushna Virya*, which aids in mitigating excess *Kapha dosha* and *Meda dhatu*, the culprits behind Obesity and Diabetes Mellitus.

Ushna Guna - The primary function of substances with hot attributes is digestion, while their secondary function involves dilating pores, arteries, and veins. The thermal property transforms solids into liquids, liquids into gases, and gases into ions, facilitating transitions between states and forms. It supplies strength through the digestion of ingested food and provides energy in the form of ATP. Introducing hot substances leads to gradual digestion of

stools and removal of blockages. Substances with warm attributes reverse through the provision of source descriptions and vitality.

Kashaya Vipaka - These attributes aid in reducing excess *Kapha dosha* and *Meda dhatu*, significant factors in the manifestation of Obesity and Diabetes Mellitus.

Kaphapaha, Kaphapittahara, Shleshmaghna - A majority of millets possess *Kaphapittahatakarma*, assisting in the reduction of excess *Kapha dosha*, a vital humor in causing Obesity, and mitigating excess *Pitta dosha*, which contributes to Hypertension and Infertility.

Karsyakari - Induces emaciation, resulting in weight loss and alleviating associated complications.

Lekhana - Scraps excess fat, particularly *abaddha meda dhatu*, a contributor to Prameha (Diabetes), and *atisthaulya* (obesity). *Lekhana karma* also eliminates undesirable lipids (Cholesterol, LDL) to prevent Coronary Artery Disease and Heart Attacks.

Guru - Demands extended digestion, promoting lasting fullness and preventing excessive eating [21].

Analyzing pearl millets' overall traits and effects reveals their suitability for Kaphaja roga (*Kapha*-related ailments) and *Pittaja roga* (*Pitta*-related ailments), as well as addressing *Raktadusti* (blood imbalances). However, caution is necessary in *Vataja roga* (Vata-related conditions) due to potential exacerbation. Consequently, pearl millets find application in *Medoroga* (lipid-related issues), *Dhamani Pratichaya* (atherosclerosis), and other *Santarpanjanya Vyadhi* (diseases due to tissue over nourishment), commonly linked to lifestyle factors. Customizing pearl millet recommendations based on individual *Agni Bala* (digestive strength) is essential, given their *Guru* (heavy) and *Ruksha* (dry) nature. This makes digestion demanding due to high fiber and protein content, coupled with lower carbohydrates compared to other grains [22, 23] Yet, these features extend satiety, and their *Lekhan* (scraping) and *Kledashoshana* (moisture removal) properties are beneficial for *Santarpanjanya Vyadhi*. Notably, Ayurveda excludes millets from daily consumption (*Nitya Sevaniya Ahara)*, underlining that they shouldn't be consumed daily. Before suggesting millets, factors like *Matra* (quantity*)*, *Kala* (time), *Kriya* (preparation), *Desha* (location), *Vaya* (age), *Deha* (constitution), *Dosha* (humors), etc., should be considered.

5 Conclusion

The modern sedentary lifestyle is a significant contributor to the widespread occurrence of non-communicable diseases, leading to an epidemic. Pearl millets, in particular, offer effective solutions for addressing these conditions rooted in overnourishment, known as *Santarpanjanya Vyadhi*, as well as imbalances related to *Kapha dosha*. Millets have the potential to serve as a valuable component in preventive diets aimed at maintaining overall health, as well as therapeutic elements in the diets of individuals already dealing with such diseases.

By incorporating pearl millets into our daily dietary choices and making necessary lifestyle adjustments, we can take steps to prevent the onset of conditions arising from overnourishment. The inclusion of pearl millet, also referred to as *Trindhanya*, in our dietary habits holds significant promise in helping us achieve this important goal.

Authors' Contribution

Design, writing, and proofing of the manuscript were contributed by all the authors.

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Conflicts of Interest

The authors have no conflicts of interest.

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