

Importance of Kshudradhanya(Millet) in the Management of Disorders Related to Rasavaha Strotas.

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ABSTRACT

Year 2023, declared as International Era of Millets for Sustainable Development Goals(Global goals) by United Nations General Assembly proposed by Government of India, created revolution in both cultivation and consumption of Kshudradhanya i.e Millets and has brought better and healthier dietary change(Ahara). Millets or Kshudradhanya or small seeded cereals or farmers food has been used as human and animal food since years. Modern era of rising global population, has given rise to many Santarpanjanya vyadhis commonly understood as lifestyle disorders like obesity, Diabetes mellitus, Hypertension etc. In Ayurveda, intake of heavy, cold, oily and excess amount of food causes Kapha vriddhi & Rasavaha strotodushti (as mentioned in charak viman 5/13) and is root cause of many chronic systemic diseases. Millets or Kshudradhanya being the powerhouse of nutrients & having Kaphahara, Lekhana and Kledashoshaka property if introduced in human diet as Pathya Ahara or therapeutic purpose can reduce the risk of many disorders related to Rasavaha strotas. So considering importance of Millets present article may help in understanding the right use of Kshudradhanya (Millets) in the management of disorders related to Rasa Dhatu & RasavahaStrotas.

Keywords - Kshudradhanya, Rasavaha Strotas, Strotodushti, Millets

INTRODUCTION

• Year 2023: International Year of Millets(IYM) for Sustainable Development Goals

United Nations in Year 2015 launched 17 Sustainable Development Goals(SDGs)^[1] also known as Global Goals with an aim to end poverty and protect planet and create better and sustainable future for all. Among these goals particularly SDG 2 aims at attaining '0 hunger' i.e to end hunger and achieve food security by improving nutrition and promote sustainable agriculture, SDG 3 aims at attaining good health and well being, SDG 8 for economic growth and development, SDG 12 for better consumption and production, SDG 13 for climate action and SDG 15 for life on land. Seeing the enormous potential of Millets(Kshudradhanya/Trinadhanya) to achieve such goals, Government of India highlighting the sustainable benefits of Millets declared 2018 as

“National Year of Millets” and proposed to United Nations for declaring 2023 as International Year of Millets (IYM) supported by 72 countries.

With this on 5th March 2021, United Nations General Assembly at its 75th session declared 2023 as International Year of Millets to raise awareness about nutritional and health benefits of Millet consumption, its easy cultivation under adverse climatic condition and its sustainable production alongwith creating better market opportunity for production & consumption. Our hon’ble Prime Minister ,Narendra Modi missioned to make India a Global Hub for Millets by creating IYM 2023 a Mass Movement.

• **Understanding Role of Rasa Dhatu & Rasavaha Strotas as a vitiated factor in Disease**

The theory of trayoupstambha(3 pillars) i.e Ahara(diet), nidra(sleep) and brahmacharya(consciousness&awareness)^[2] as stated by Acharya Charaka mentions that Ahara i.e a balanced diet is considered as Aushadha(natural medicine) to fulfill the aim of ‘swasthasya swasthya rakshanam’ in order to support better physiology & psychology of a healthy as well as diseased person. According to Ayurveda origin of body, its function and structure all depends on Anna because after proper metabolic processes the Ahara we take changes into Anna rasa that forms and nourishes rest dhatu^[3]. Rasa dhatu is first formed Dhatu that is the precursor for forming rest 6 dhatus with the help of Agni, hence is of prime importance in nourishment and development of healthy body with its main function as ‘Prenana’(nutrition) and ‘Rakta Poshana’(nourishment of corresponding Rakta Dhatu). Any rasa dushti either due to Vriddhi(increase in quantity) or Kshaya(decrease in quantity) of Rasa Dhatu can cause various diseases. Rasavaha Strotas are the passage of these circulating Rasa via Vyan Vayu all over body originating from Heart(Hridaya) and circulating rasa by 10 vessels(dasha dhamanis) these two being the moola of Rasavaha strotas^[4]. Any obstruction in strotas leads to stagnation of Dosha, Dhatu and Malas in strotas of its respective dhatus thus leading to impaired manufacture of tissues and improper flow of nutrients and waste materials causing many diseases. Therefore, improper ahara(diet) leads to Rasavaha strotodushti

Rasavaha Strotodushti Hetu(Etiological Factors)-

गुरुशीतमतिस्निग्धमतिमात्रं समश्रताम् ।

रसवाहीनि दुष्यन्ति चिन्त्यानां चातिचिन्तनात् ॥ (च. वि ५/१३)

i.e intake of heavy/junk,cold,oily/viscous food causes obstruction in rasavaha strotas hampering circulation, taking wholesome& unwholesome diet together, stress/psychological problems leads to Rasavaha strotodushti.

Rasavaha Strotodushti Lakshana(Symptoms)

अश्रद्धा चारुचिश्वास्यवैरस्यमरसज्ञता।

हृल्लासो गौरवं तन्द्रा साङ्गमर्दो ज्वरस्तमः ॥

पाण्डुत्वं स्रोतसां रोधः क्लैब्यं सादः कृशाङ्गता।

नाशोऽग्नेरयथाकालं वलयः पलितानि च॥

रसप्रदोषजा रोगा (च. सू २८/९,१०)

Vitiation of Rasavaha strotas causes- disinclination for any food, anorexia, disgeusia, ageusia/loss of taste, nausea, heaviness, drowsiness, fever with bodyache & tiredness, anaemia, obstruction of body channels hampering circulation, impotency, asthenia, emaciation, decrease power of digestion, premature appearance of wrinkles& graying of hairs

Chikitsa(management) of Rasavaha Strotodushti

रसजानां विकाराणां सर्वं लङ्घनमौषधम्। (च (२५/२८. सू.

For cure of all diseases due to vitiation of Rasa dhatu & Rasavaha strotas, one should take recourse to fasting of all types.

So dushti of Rasa dhatu leads to dushti of rest six dhatus and strotas. Hence its important to treat Rasavaha strotodushti to avoid Dhatu vikara and strotovikara and related disorders.

Acharya Charaka explains relation of dhatu and strotas as

तेषां प्रकोपात् स्थानस्थाश्चैव मार्गाश्च शरीरधातवः प्रकोपमापद्यन्ते, इतरेषां प्रकोपादितराणि च। स्रोतांसि स्रोतांस्येव, धातवश्च धातूनेव प्रदूषयन्ति प्रदुष्टाः।(च. वि ५/९)

i.e vitiation of transport channels causes vitiation of dhatu. So treatment of vitiated dhatu is applicable for vitiated strotas also.

Rasa dhatu play major role in the pathogenesis of diseases like Jwara, Prameha, Shosha, Sthaula (obesity) and Karshaya leading to develop risk factors for wide range of metabolic disorders and lifestyle disorders. As the person intakes Guru, Sheeta, Mrudu gunatamaka ahara it leads to Rasa vriddhi and hence causes Sthaulya. Rasa dhatu possesses similar properties as that to kapha dosha 'Rasoapi shleshmvat'^[5] and as rasa is jalamahabhoota predominant and possess tanu, swacha and snigdha property travelling through Dhamanis. Therefore, any vitiation of Kapha dosha causes vitiation of Rasadhatu further leading to vitiation of Meda dhatu as Rasa & Meda are seat of Kapha dosha. Excessive intake of Kapha predominant Ahara, Diwaswapna and Avyayama (lack of physical excercise) causes vitiation in Rasadhatu that circulates in whole body. These factors disturb Jatharagni producing Ama that results in meda dhatu agnimandhya resulting in more accumulation of Medas (fat and lipid) and causing condition of Sthaulya (obesity) which according to Acharya Sushruta is Rasanimitaj vyadhi and according to Acharya Charak is classified under Ashtanindita purusha and in modern terms is mainly caused by sedentary lifestyle, lack of physical work, irregular diet & sleep pattern and stress leading to many serious health problems like obesity, hypertention, diabetes mellitus, coronary heart disease, infertility, dyslipidaemia, cancer, skin disorders, psychological problems etc.

Thus we can say as said by Acharya Sushruta:

रसनिमित्तमेव स्थौल्यं काश्यं च | (सु/१५ सू. ३२ (

That if Rasa dhatu is not produced accurately or if it gets contaminated it will lead to many systemic disorders including obesity or emaciation and rest Santarpanjanya vyadhis.

- **Kshudradhanya/Sridhanya (Millets): An Elixir (Pathya ahara) for Rasavaha Strotovikar**
According to Ayurveda, any Dravya or Aushadha acts through its pharmacodynamic properties like Rasa, Guna, Veerya, Vipaka & Prabhava and the principle treatment for any disease is based on Sampraptri Vighatana relieved by Dosha Dushya Sammurchana. So aim of my article is to provide an overview on Millets (Kshudradhanya/Tinadhanya) and to introduce it as a pathya ahara in our daily diet due to its Laghu, Kaphahara & Medonasahak (Lekhaniya) property for managing lifestyle disorder and Santarpanjanya Vyadhis like obesity, hypertention, diabetes mellitus etc. mainly caused by dushti of Rasa Dhatu & Rasavaha Strotas. Millets provide a good source for Iron, Calcium, Zinc, Folic Acid, minerals and vitamins, have antioxidant property and is also recommended in Gluten sensitivity related to Grahani (IBS) as the fibre content in it has water absorbing property. It acts as prebiotic feeding the microbiome of Gut flora. also as Millets

need low fertilizer to grow, are pest free crops and can grow even better in adverse climatic condition, is cost effective so, one can assure better safety and security and cost effectivity of Millets in daily diet(Ahara).

So understanding the significance of Millets and introducing it in regular diet as Pathya ahara can pacify the Doshas that cause vitiation of Rasa dhatu and Rasavaha Strotas thus preventing many Santarpanjanya vikara and systemic disorders especially sthauilaya(obesity) which is root cause of all lifestyle disorders. So by this we can promote sustainable and wholesome approach to health and nutrition thus attaining SDG goals as stated by United Nation.

AIM & OBJECTIVES

To understand and access the importance of introducing Kshudradhanya(Millets) in Ahara(diet) as Pathya in order to manage disorders related to Rasa dhatu and Rasavaha strotas.

MATERIAL AND METHODS

- **Literature Search-** Review of literature regarding Kshudradhanya(Millets), Rasa dhatu & Rasavaha strotas from Brihatrayi and available commentaries and nighantus and from research articles through various sites,magazines,journals. Nutritional values of Kshudradhanya(Millets) are searched and prepared from PUBMED and Google Scholar.
- **Type of Study-** Conceptual Study.
- Ayurveda the Science of Life unfolds the ancient treasure by the variety of dravyas, herbs, spices, ahara kalpanas, daily regimen(dincharya) etc. that are necessary in maintaining health and prevent disease. Millets also known as Motaanaj or Kshudradhanya are small seeded grains, given prominence in Ayurveda as Pathya Ahara because of its wide nutritional and therapeutic properties that balances doshas in body alongwith providing all required macro and micronutrients in regular diet of an individual.
- Millets were introduced in ancient texts Rigaveda, Yajurveda and Atharvaveda and has been called with various names like Trindhanya (Sanskrit word Trin+dhanya i.e grains growing wild and without cultivation) the grass derived cereals of Trinadivarga with short life span, Kshudradhanya i.e used as an alternative food than main cereal, Motaanaj i.e are big sized and commonly used in rural areas, Paramparik dhanya i.e traditional and oldest cultivating food, Kudhanya(by Acharya Sushruta) i.e need much energy(jatharagni) to digest and metabolize food, Sridhanya.
- Acharya Charaka has classified Aharavarga in 12 major categories in which Dhanyavarga is first and most important varga describing Anna as the essence of Prana(life). Dhanyavarga is further divided into Sukadhanya, Shalidhanya, Simbidhanya, Brihidhanya, Trindhanya or Kshudradhanya which includes Millets like Barak(kanguni), Uddalaka(bankodo), Cheena, Sharad, Ujjaval, Durdur, Gandhan, Guruvind. As compared to Shashtikadhanya which need less energy to digest food, Millets needs much digestive fire energy to digest hence called as Kshudradhanya or Kudhanya.^[6]
- Acharya Sushruta has classified Aharavarga into 2 major categories i.e Dravavarga with further subdivision into 10 categories and Annavarga with further subdivision into 11 categories including Kudhanya i.e Millets which includes Kodo, Nivar, Shayamak, Shantanu, Madhuli, Nandimukhi, Varuk, Mukundak, Venuyav.^[7]

- Acharya Vagbhatta in Ashtang Hridaya has classified Aharavarga into 2 major categories i.e Drava and Anna-swaroopa varga each subdivided into 7 categories classifying Millets(Trindhanya/Kudhanya/Kshudradhanya) under Annaswaroopa that includes Kangu(kaguni), Kodav, Nivar, Sanva, Yavanaal/javar^[8]
- Bhavprakash Nighantu mentions some common properties of Millets as- Madhur and kashaya rasa, laghu, ruksha, katu vipaka, vatakarak, kinchit ushna, lekshana (removes excess fat), ardarashoshaka (pulls out water due to kashaya property), malabandhak (binds the fecal matter), kapha and rakta vikarnashaka (reduces fat and purifies blood). Among them Kanguni or Priyangu is Bhagnasandhankrut, bringhaniya, reduces kapha and also used as fodder for horses, Cheenak/Cheena have similar property, Shayamak or Savan balances pitta dosha and is beneficial in vibandh (constipation), Vanakodo/Kodomillets is vatal and grahi. Other trindhanya include Vanshyav, Charuk, Kusumbeej, Gavedhuka, Neevar(tini), Yavanaal(javar) all these used as anna/food.^[9]
- “Millet” is derived from Latin word “Miliun” that means small seed. It comes under the Poaceae family having smaller seeds as compared to major cereals yet they store and provide rich nutrition as required for normal body functioning on everyday basis hence called as “Nutricereals”.
- India is the largest producer and consumer of Millet crops and in rural areas serve the dual purpose of cereal as grain and animal food as fodder.
- Apart from high nutrition, there are many other reasons for cultivating millets like: they are drought resistant, resistant to pests and diseases, have short growing season (60-100 days), have good nutritive value, are gluten free, have alkaline property, require less water and fertility to grow, are cost effective and can grow naturally in extreme weather condition. Ancient texts describe Millets as natural, nutritive, self growing cereal capable of fulfilling per day diet goal of an individual.
- **Types of Millets^[10]:**

<i>Major Millets</i>	<i>Minor Millets</i>
a) Pearl Millet (Vajranna/Bajra)	a) Foxtail Millet (Kangu/Priyangu)
b) Finger Millet (Nartaki/Ragi)	b) Proso Millet (Cheenaka)
	c) Little Millet (Kutiki/shavan)
	d) Kodo Millet (Koradusha/Kodrava)
	e) Barnyard Millet (Shyamaka)



According to Ayurveda, Kshudradhanya (Millets) include:

Millet(Kshudradhanya)	Common Names	Botanical Name
Kangu(Priyangu)- Foxtail millet	Kanguni, Kang	Setaria italica
Shyamaka – Barnyard millet	Sanwa, Samul	Echinochloa frumentacea
Koradusha(Kodrava)- Kodo millet	Kodo, Harak, Kodro	Paspalum scrobiculatum
Cheenaka- Proso millet	Cheena, Varnyache	Panicum miliaceum
Nartaki/Ragi- Finger millet	Ragi, Mandal, Nachani	Eleusine coracana
Gaveduka(Adlay)- Job's tear millet	Gardehua, Kasai	Coix lachrymal jobi
Yavanaal(javar)- Sorghum	Juwar, Jwar, Jondhale, Jawari, Jola	Sorghum vulgare
Vajranna(bajra)- Pearl millet	Bajda, Bajri, Sajja	Pennisetum typhoides
Kutiki(shavana)- Little millet	Trin dhanya vishesh	Panicum miliare

Rasapanchak(Propeties) of Trindhanya/Millets (as per classical texts):

Rasa	Kashaya, Madhura
Guna	Laghu, Ruksha
Veerya	Ushna
Vipaka	Katu
Karma	Lekhana, Vrishya, Kledashoshana, Baddhamalakar
Effect on Tridosha and Dhatu	Kaphahara, Vatala, Pitta-Rakta shamaka

- Alongwith the general properties of Trindhanya, specific properties have also been mentioned that act according to Guna(properties) and Karma(action), hence can be recommended as pathya in regular diet(ahara) according to roga(disease), rogi(patient), vitiated dhatu(especially Rasa dhatu) and strotodushti(especially Rasavaha strotas).

Characteristics of Trindhanya(Millets)^{[12],[13]}:

Kshudradhanya (Millet)	Rasa (Taste)	Guna (quality)	Dosha prabhava (effect on Dosha)	Karma(action)
Kangu(Priyangu)- Foxtail millet (Yellow is superior)	Madhura, kashaya	Guru, sheeta, ruksha	Kaphahar, Pittahar, Vatakar	Ruchya(delicious), Dahahar(prevents burning sensation), Bhagna sandhankar(repairs fractured bones), Brighna(nourishes), effective for horses.
Shyamaka – Barnyard millet	Madhura, kashaya	Ruksha, snigdha, laghu, sheeta	Kapha-pittahar, Vatakar	Sangrahi(as a anti-diarrhoea), Vishahar, Shoshaka(causes dryness/scrapper)
Koradusha(Kodrava)- Kodo millet	Madhura, tikta	Guru, ruksha	Kapha-pittahar, Vatakar	Pathya, Madkarak, Grahi(constipative/anti-diarrhoic), Shoshan(drying), Madhumehtar(anti-diabetic)
Cheenaka- Proso millet	Madhura, kashaya	Guru, ruksha, sheeta	Kaphahar, Pittahar, Vatakar	Similar to Kanguni(Fox tail millet)

<i>Nartaki/Ragi-Finger millet</i>	<i>Tikta, madhura, kashaya</i>	<i>Laghu, sheeta</i>	<i>Pitta shamaka</i>	<i>Balya(strengthen), Rakta-pittahar(effective in blood disorders)</i>
<i>Gaveduka(Adlay)-Job's tear millet</i>	<i>Katu</i>	<i>Ruksha</i>	<i>Kaphanashak</i>	<i>Karshakrit(reduces excess body fat), Medahar(anti-obesity)</i>
<i>Yavanaal(javar)-Sorghum</i>	<i>Madhura, kashaya</i>	<i>Laghu, ruksha, sheeta</i>	<i>Kaphahar, Rakta-pittahar</i>	<i>Vrishya(aphrodisiac), Kledaghna(fibrous), Raktavikarhar(effective in blood disorders)</i>
<i>Vajranna(bajra)-Pearl millet</i>	<i>Madhura</i>	<i>Ruksha, Laghu, ushna virya, katu vipaka</i>	<i>Shleshmahar</i>	<i>Rakta-pittahar, Vishahar(anti-poisonous), Shoolahar(pain-reliever), Arshoghna(effective in piles), Agnipadeepana</i>
<i>Kutiki(shavan)-Little millet</i>	<i>madhura</i>	<i>---</i>	<i>-----</i>	<i>Balya(strengthens), Pakva(beneficial for horses)</i>

Nutritional composition of Millets^[14]:

<i>Protein</i>	<i>5-10%</i>
<i>Fats</i>	<i>3-5%</i>
<i>Carbohydrate</i>	<i>68-75%</i>
<i>Dietary fibre, vitamins, minerals etc.</i>	<i>15-20%</i>

(for 100 gm of each millet)

Health	Millets	Protein (gm.)	Fibre (gm.)	Carbohydrate(gm.)	Fat(g)	Mineral (gm.)	Iron(mg.)	Calcium (mg.)
	<i>Pearl millet</i>	<i>10.6</i>	<i>1.3</i>	<i>67.5</i>	<i>5</i>	<i>2.3</i>	<i>8</i>	<i>38</i>
	<i>Finger millet</i>	<i>7.3</i>	<i>3.6</i>	<i>72</i>	<i>1.3</i>	<i>2.7</i>	<i>3.9</i>	<i>344</i>
	<i>Foxtail millet</i>	<i>12.3</i>	<i>8.0</i>	<i>60.9</i>	<i>4.3</i>	<i>3.3</i>	<i>2.8</i>	<i>31</i>
	<i>Proso millet</i>	<i>12.5</i>	<i>2.2</i>	<i>70.4</i>	<i>1.1</i>	<i>1.9</i>	<i>0.8</i>	<i>14</i>
	<i>Sorghum</i>	<i>10.4</i>	<i>1.6</i>	<i>72.6</i>	<i>1.9</i>	<i>1.6</i>	<i>4.1</i>	<i>25</i>
	<i>Kodo millet</i>	<i>8.3</i>	<i>9</i>	<i>65.9</i>	<i>1.4</i>	<i>2.6</i>	<i>0.5</i>	<i>27</i>
	<i>Little millet</i>	<i>7.7</i>	<i>7.6</i>	<i>67</i>	<i>4.7</i>	<i>1.5</i>	<i>9.3</i>	<i>17</i>
	<i>Barnyard millet</i>	<i>6.2</i>	<i>9.8</i>	<i>65.5</i>	<i>2.2</i>	<i>4.4</i>	<i>5</i>	<i>20</i>

Benefits of Millets(especially in Rasavaha strotovikara & Santarpanjanya vyadhi)

- On general analysis of nutritional qualities & properties of millets, it can be indicated in Kaphaja roga, Pittaja-rakta dushti^[15] and is grossly advised in Santarpanjanya Vikara(diseases due to over nourishment of tissues) that usually include lifestyle systemic disorders mainly including Sthaulya(obesity), prameha(diabetes), medoroga(disease due to fat accumulation), kushtha(skin

diseases), atisara(diarrhea), vrana(wound&ulcers) and other vyadhi due to Rasa and Rasavaha strotas dushti.

- The Lekhana(scraping) and Kledashoshana(drying of lipid and excess liquid part) quality of Millets is helpful in management of Sthaulya(obesity) as mentioned in Ashtanindita purusha adyay by Acharya Charaka.
- The Gluten free property of Millets and rich fibre content in it makes it the dietary food of choice in case of Grahani(IBS) and in people with gluten allergy. Also it regulates digestion and maintains the healthy microbiome of gut.
- As Millets are low in fats and have low Glycemic Index with richness in nutritional quality like carbohydrate, fibres, protein, vitamins and minerals, they are ideal food for Prameha(Diabetes), reduces cholesterol & blood glucose levels.
- They are also good source of antioxidants and phenolic compounds so are beneficial in inflammatory disorders, heart diseases, cancer, neurological disorders etc. It contains Betacarotene that is source of Vitamin A good for sight and Niacin that is source of Vitamin B3 that maintains healthy epidermis & energy production.
- Acharya Charaka in Ashtanindita adhyay has mentioned Priyangu, Kodo, Shyamaka, Yava as pathya for Atisthoola(obese person). Acharya Sushruta has mentioned Kordusha, Shyamaka, Uddala as pathya in Kushtha(skin disease), Prameha(DM), Sthaulya(obesity).
- In Bhaishajya Ratnavali, Kangu, Kordusha, Shyamaka, Venu, Yava is indicated in prameha, Venuyava, Kordusha, Shyamaka, Kangu in medoroga and Shyamaka in Vidradhi(abscess).
- The properties of Millets like Madhura rasa & Laghu guna if given alongwith Brimhana Dravyas like Ghrita, Dugdha(milk) etc. can help in overcoming nutritional disorders and malnutrition in children.
- Millets contain soluble fibres that reduces “Bad cholesterol” and “triglyceride” thus reducing risk of many Heart diseases.
- Rich content of Iron in Millets make them essential for people with Anaemia.
- Rich content of Vitamin and Minerals like Iron, Calcium, Zinc, Magnesium, help in enhancing the immune system of individual.
- Acharya Charaka in Agraya prakaran has stated for Gavedhuka as –
गवेधुकान्नं कर्शनीयानाम्। (च (४०/२५) .सू.
Mentioning gavedhuka as single drug for obesity and can be taken as Pathya Ahara as well as in form of Yavagu.

Contraindications of Millets(Kshudradhanya)

- Ayurveda does not mentions Kshudradhanya(Millets) under category of Nitya Sevaniya Ahara(food that are used regularly)because the Ruksha and Vatakara property of it makes it unsuitable for Vatapradhana Vyadhis like Sandhigata Vata(osteoarthritis), Karshya(underweight), Shosha(emaciation), Shoola(pain) and many neurological disorders and vatavyadhi.
- Due to guru and ruksha property and with more amount of dietary fibres,protein and less carbohydrate can cause Ajeena(indigestion), mandagni & Vibandh(constipation) due to overintake of millets.

- Some studies show the Goitrogenic activity of Pearl millets as it contains Goitrogens that interfere thyroid function. So it should be avoided in case of hypothyroidism and goiter.
- Under these condition, Millets can be taken after Samskara(processing) or after bharjan(roasting) with ghrita that will balance vata and helps in easy digestion, or it can be soaked in warm water before consumption, can be taken after adding Deepana-Pachana drugs that enhance digestion or by adding Prakshepa dravyas like spices etc. that are vatashamaka. This will enhance the nutritional property of Millets and also would overcome the contraindication of them.
- There are lot of **Pathya Kalpanas(dishes/recopies)** that can be prepared using Millets like: Roti, Khichadi, Porridge, Bhakri, Dosa, Idli, Upma, Kheer, Pulao, Pongal, Dosa, Pancakes, Baked items, Bread, fura, Modaka/Ladoos, Sweets, Milk Powder, Halwa etc.



So, the preparation that is best suitable for both Roga(disease) & Rogi(diseased) should be advised.

DISCUSSION

Understanding the concept of general dushti hetu (causes of vitiation) in terms of Ayurveda

आहारश्च विहारश्च यः स्याद्दोषगुणैः समः।

धातुभिर्विगुणश्चापि स्रोतसां स प्रदूषकः॥ (च. वि५/२३)

one can understand that intake of similar ahara-vihara as that to dosha guna leads to dosha vitiation and prakopa leading to Strotovikarya & Sthana samshraya developing Purvaroopta(prodromal symptoms) of disease and intake of ahara-vihara opposite to dhatu guna causes dhatu poshana vikara leading to contaminated(viguna) dhatu formation. So, the quality & quantity of Ahara(daily diet) of an individual decides proper formation and functioning of Dosha, Dhatu and Mala. Improper diet(Ahara) and sedentary lifestyle leads to vitiation(dushti) of Rasa Dhatu and Rasavaha Strotas, the first formed dhatu, hence the succeeding 6 dhatus also get affected.

Millets(Kshudradhanya) that act both as Ahara & Aushadha can be used as a dietary supplement(Pathya Ahara) as well as therapeutic agent and is best used in Santarpanjanya vikara & Kaphaja vikara. By the principle of 'Rasoapi shleshmavata', millet can be used in Rasa dhatu and Rasavaha strotovikara in managing lifestyle disorders like sthaulya(obesity), prameha(DM), HTN, skin disorders etc, supports healthy digestion, provides immunity & nourishment, balances Doshas(vata,pitta,kapha) according to individual's Prakriti(constitution) and Agni(digestive power). Millets should be indicated as per the Agnibala of individual due to its guru and ruksha property and more amount of dietary fibres, protein & less carbohydrate that interferes in

digestion. But as it is mentioned as laghu in property that can be understood that after its proper digestion it imparts lightness to body.

People from rural & weaker section use Kshudradhanya(Millets) as potential nutrient in their regular diet that helps in overcoming the general weakness due to excess physical labour and work.

Hence the above facts views that, in order to get full nutritional advantages of Millets, it is necessary to select best of Pathya Kalpana from Millets keeping in mind matra(quantity), frequency, its contraindications and overcoming it by Samskara(processing) or adding Prakshepa dravyas according to roga(disease) & prakriti of person.

CONCLUSION

After this brief discussion on relation between intake of Millets as Pathya ahara in Rasa dhatu dushti and Rasavaha Strotovikara, shows that Rasa Dhatu is the main dhatu that is formed by taking healthier food, which circulates via Rasavaha Strotas into body and is responsible for forming other dhatus & healthier tissues. Inappropriate lifestyle, mistaken food and lack of physical exercise(vyayam) leads to development of Santarpanjanya vyadhis including obesity(sthaulya), diabetes(prameha), hypertention that are result of Rasa & Rasavaha strotas Dushti. The properties of Kshudradhanya(Millets) prove to overcome such conditions as Pathya ahara in various forms(kalpana) according to individual's condition.

There needs much further research to be done on Kshudradhanya(Millets) regarding recopies, shelf life, safety & security, packaging,consumption etc. IEC(information,education & communication) act major role in creating awareness about nutritional benefits of Millets by conducting seminars, workshops, launching Millet recepie booksetc.

Government of India is working on this in collaboration with universities, institutes, hotel & hospital industries.

Thus Kshudradhanya(Millet), the Elixir in Ahara of individual has proved to bring an era where healthy & sustainable food is the dietary preference bringing revival of Ayurvedic kalpanas in Pathya ahara. Thus it serves the purpose of fulfilling the Sustainable Development Goals to improve health & maintaining sustainable future for all.



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