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BRIDGING TRADITIONAL WISDOM WITH MODERN HEALTH: EXPLORING ETHNOPHARMACOLOGY AND AYUSH AHAAR

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ABSTRACT

Traditional wisdom passed down through generations is highly valued in the healthcare field. This wisdom is frequently expressed through traditional medicines systems, which are based on indigenous communities' knowledge and traditions. Ethnopharmacology, a discipline that combines anthropology, pharmacology, and botany, aims to understand and utilize the therapeutic potential of medicinal plants and traditional treatments. In parallel, efforts like AYUSH Aahar in India are reigniting interest in traditional dietary practices, reflecting a holistic approach to health and well-being. Let's delve into bridging traditional wisdom with modern health through ethnopharmacology and AYUSH Aahar.

Keywords: Aahar, Ethnopharmacology, Traditional, Modern Health



Introduction:

In an era where modern medicine continues to advance rapidly, there's a growing recognition of the invaluable knowledge embedded in traditional healing practices. Ethnopharmacology, the interdisciplinary study of traditional medicinal knowledge and its applications, stands at the intersection of ancient wisdom and modern science. Paired with initiatives like AYUSH Aahar, which promotes the consumption of traditional foods for holistic health, ethnopharmacology holds promise for shaping the future of healthcare.

The Food Safety and Standards Authority of India (FSSAI) has issued regulations for Ayurveda Aahara, or Ayurvedic foods, for 2022. These regulations define Ayurveda Aahar as food produced using the recipes, ingredients, or techniques indicated in Ayurveda's official literature. The regulations apply to foods prescribed for eating in line with Ayurvedic dietetics or *Pathya*. [1] The term "Ayurveda Aahar" does not refer to any Ayurveda medicines, drugs, or goods, cosmetics, narcotics, or drugs used to treat mental illnesses. Any food item that is packed and used in daily life for dietary purposes, such as pulses, rice, flour, vegetables, and other foods specified in the Food Safety and Standards Regulations, is not eligible for coverage under these regulations unless it meets the requirements of the regulations.

The goal of the AYUSH Aahar implementation is that no one shall produce, pack, sell, offer for sale, market, distribute, or import any of the food products listed in these regulations unless they meet the standards specified in these laws.

Ethnopharmacology:

Ethnopharmacology is the study of indigenous societies' traditional medical practices using plants, animals, and minerals. [2] It acknowledges the complex relationship between individuals and their surroundings, and how indigenous flora and wildlife can contain the secret to healing. Ethnopharmacologists hope to find new possibilities for drug research and development by documenting and investigating traditional remedies' pharmacological properties.

One of the cornerstones of ethnopharmacology is the awareness of cultural variability in health practices. Different cultures have distinct healing traditions influenced by their environment, history, and cultural beliefs.

Ethnopharmacological studies help researchers understand the therapeutic potential of plants and traditional treatments while also respecting and protecting indigenous knowledge systems. Ethnopharmacology focuses on the bio-cultural examination and description of "traditional," "indigenous," or local pharmacopoeias, as well as the experimental evaluation of *Materia Medica* using biological test systems. [3] The molecular traits and complexities of the condition or symptoms for which a medicinal substance is employed in "traditional" medicine are represented to varying degrees and extents in the bioassays used to validate the observed health claims. The ultimate purpose of ethnopharmacology is to contribute to evidence-based medicine, which may require conclusive negative outcomes as well as positive data. [4]

Ayurveda and AYUSH Aahar: Ayurveda, an ancient Indian school of medicine,

promotes a holistic approach to health by balancing mind, body, and spirit. In India, the AYUSH Ministry is responsible for the development and integration of traditional Indian medical systems such as Ayurveda, Yoga and Naturopathy, Unani, Siddha, and Homeopathy. AYUSH Aahar, a program of the AYUSH Ministry, promotes Ayurvedic-based dietary practices. It promotes the use of complete, natural foods that nourish the body and improve overall health.

AYUSH Aahar promotes the use of natural, seasonal foods, which are thought to benefit overall health and well-being according to Ayurveda. AYUSH Aahar promotes a diet that nourishes the body, mind, and spirit while emphasizing balance and moderation. By introducing traditional Indian foods, herbs, and spices into their everyday meals, people can tap into nature's healing power while also celebrating their cultural history.

In 2022, the AYUSH Aahar program gained attraction with intensified efforts to educate the public about the health benefits of traditional Indian foods and nutritional patterns. AYUSH Aahar promotes a balanced diet suited to individual constitution (*Prakriti*) and health needs, with an emphasis on seasonal fruits, vegetables, whole grains, legumes, and herbs.

The safety of herbal medicines is a global priority for national health agencies and the general population, both in traditional use and drug research.

Integration with FSSAI Regulations: The Food Safety and Standards Authority of India (FSSAI) is responsible for assuring food safety and quality for Indian

consumers. FSSAI was established under the Food Safety and Standards Act of 2006 to set standards for food items, regulate their manufacturing, distribution, and sale, and raise public awareness about food safety.

In 2022, the FSSAI acknowledged the significance of harmonizing its laws with traditional health treatments such as Ayurveda. By incorporating AYUSH concepts into food safety standards, the FSSAI hopes to encourage the production and consumption of Ayurvedic foods and dietary supplements while ensuring their safety and efficacy.

Key Initiatives and Regulations:

AYUSH and FSSAI launched many significant initiatives and laws in 2022 to promote traditional health practices and assure food safety:

- **Ayurvedic Food Product Standardization:** The FSSAI has worked with AYUSH to create standards for Ayurvedic food products that ensure their quality, safety, and authenticity.
- **Labelling and Certification:** AYUSH Aahar promotes food makers to label their products using Ayurvedic principles, which tell consumers about the ingredients, nutritional value, and health advantages.
- **Promotion of Traditional Cuisines:** One of AYUSH Aahar's goals is to promote traditional Indian cuisines that combine Ayurvedic herbs and spices with medicinal characteristics.
- **Capacity Building and Training:** The FSSAI runs training programs and workshops to teach food handlers, manufacturers, and consumers about AYUSH principles and food safety measures.

Description and Types of Millets (Aahar) in

Ayurveda:[5]

Millets are a type of small-seeded grass that is commonly grown and consumed around the world due to its nutritional and health benefits. Millets are regarded extremely beneficial in Ayurveda for maintaining good health and preventing many ailments. Aahar includes a variety of components such as pulses, grains, millets, meals, and vegetables. Millets are one of the key factors that have been successful and beneficial to human health. Last year, 2023 was designated as International Millets Year.

Aahar Dhanya Varga is an Ayurvedic treatment that includes millets. Millets have numerous names in Ayurveda, including *Kudhanya* (inferior among cereals)[6], *Kshudra Dhanya* (little cereals)[7], and *Trina Dhanya* (grass-like cereals).[8]

Millets have a light and dry nature, making them suitable for balancing the *Kaphadosha* (one of Ayurveda's three elemental body constitutions with a higher water content).

List of Millets according to Ayurveda:[9]

Dhanya Large millets:

1. *Nartaki*-Finger millet
2. *Priyangu*-Pearl millet
3. *Kangu*(*Priyangu*)-Foxtail millet
4. *Cheenaka*-Prosomillet

Kshudradhanya (Small millets):

5. *Shyamaka*-Barnyard millet
6. *Koradusha*(*Kodrava*)-Kod millet

7. *Gaveduka*-Adlay millet

8. *Yavanaala*-Sorghum

Rasa pachaka of millets in general: [10, 11]

| | |
|--|--|
| <i>Rasa</i> (Taste) | <i>Kashaya, Madhura</i> (Astringent, sweet) |
| <i>Veerya</i> (Potency) | <i>Sheeta</i> (Cold) |
| <i>Vipaka</i> (post digestivetaste) | <i>Katu</i> (pungent) |
| <i>Guna</i> (properties) | <i>Laghu, ruksha</i> (light, dry) |
| <i>Karma</i> (action) | <i>Lekhaniya, Vrshya, kledashoshana, baddhmalakara</i> |
| Effect on <i>Tridosha</i> and <i>Dhatu</i> | <i>Kapha pittahar, Vatala, Raktashamaka</i> |

Nutritional value of Millets: Millets are extremely nutritious, including high levels of carbohydrates, dietary fiber, protein, and vital minerals like iron, magnesium, phosphorus, and zinc. They are also low in fat and have a low glycemic index, so they are an excellent choice for diabetics. The following is the nutritional breakdown of some commonly consumed millets per 100 grams (source: USDA National Nutrient Database):[12]

| Millets | Calories (Kcal) | Carbohydrate (gram) | Fiber (gram) | Protein (gram) | Fats | Iron (miligram) | Magnesium (miligram) | Phosphorus (miligram) | Zinc |
|----------------|-----------------|---------------------|--------------|----------------|------|-----------------|----------------------|-----------------------|-------|
| <i>Nartaki</i> | 336 | 72.6g | 7.3g | 7.3g | 1.3g | 3.9mg | 114mg | 283mg | 2.7mg |

| | | | | | | | | | |
|-----------------|-----|--------|-------|--------|-------|--------|-------|-------|--------|
| <i>Bajra</i> | 361 | 67 g | 1.3g | 11.8g | 5.6 g | 16.9mg | 114mg | 290mg | 3.1mg |
| <i>Kangni</i> | 349 | 63.2 g | 6.7 g | 11.2 g | 4.3 g | 2.8mg | 76 mg | 290mg | 1.9mg |
| <i>Cheenaka</i> | 341 | 70.4g | 2.2g | 12.5g | 1.1 g | 2mg | 1.9mg | 206mg | 1.5mg |
| <i>Shymaka</i> | 316 | 65.3g | 10.1g | 10.6g | 1.5 g | 15.2mg | 88mg | 293mg | 2.6mg |
| <i>Kodo</i> | 302 | 69.9g | 8.5g | 8.03g | 4.2 g | 9.9mg | 122mg | 188mg | 1.65mg |
| <i>Gaveduka</i> | 356 | 73.9g | 0.3g | 15.9g | 4.6 g | 13.6mg | 126mg | 299mg | 3.61mg |
| <i>Yavanaka</i> | 339 | 72.1g | 6.7g | 10.6g | 3.4 g | 3.36mg | 165mg | 289mg | 1.67mg |

Prevalence of Lifestyle Disorder in India:

Lifestyle disorders are a collection of illnesses linked to harmful behaviours and lifestyle choices, such as poor food, lack of physical activity, and tobacco use. The prevalence of lifestyle problems in India has increased in recent decades, owing to rapid urbanization, dietary changes, and sedentary lifestyles.

A study published in the Lancet Global Health in 2018 found that the prevalence of lifestyle disorders such as diabetes, hypertension, and obesity has increased significantly in India. According to the study, the prevalence of diabetes in India climbed from 3.4% in 2000 to 6.5% in 2016, while hypertension rose from 23.2% in 2000 to 29.8% in 2016. The survey also found that the prevalence of obesity in India had risen from 9.3% in 2000 to 20.7% in 2016. [13]

Overall, these studies indicate that lifestyle disorders are a serious public health concern in India, and that coordinated efforts are required to address the underlying causes of these conditions, such as poor food, a lack of physical exercise, and tobacco use.

Indian healthy dishes made up of millets:

Millets are widely used in traditional Indian cuisine, and there are many healthy dishes that can be made using millets. Here are some examples of Indian dishes made with millets, along with references to recipes:

- 1) **Millet Upma:** Upma is a popular breakfast dish in South India, and can be made using a variety of grains, including millets. Millet upma is a healthy and filling breakfast option. [14]
- 2) **Millet Khichdi:** Khichdi is a traditional Indian dish made with rice and lentils, but can also be made with millets. Millet khichdi is a nutritious and easy-to-digest meal. [15]
- 3) **Millet Dosa:** Dosa is a popular South Indian dish made with fermented rice and lentil batter, but can also be made with millets. Millet dosa is a healthier alternative to regular dosa. [16]
- 4) **Millet Idli:** Idli is another popular South Indian breakfast dish made with fermented rice and lentil batter. Millet idli is a healthier option that is rich in nutrients and easy to digest. [17]
- 5) **Millet Khichu:** Khichu is a popular Gujarati snack made with rice flour, but can also

bemadewith milletflour.Milletkhichu is a healthyandtastysnackoption.[18]

Overall, these dishes made with millets are not only delicious but also provide numeroushealthbenefits.

Contraindication:Thegeneralattributes of millets are *Ruksha* (Reduces Unctuousness), *Vatakara* (Increases *Vata*),which makethem unsuitable for *VataPradhanaVyadhi* (Diseases due to *Vata* dominance) like *SandhigataVata* (OsteoArthritis),*Shoola*(Conditions with pain), *Karshya* (Underweight), *Shosha* (Emaciated), and due to *Durjarata* (Difficultindigestion),theyarenottobe usedin*Ajeerna*(Indigestion),*Mandagni*. If millets must be used in the aforementioned conditions, *Samskara* (Processing) that aids in balancing *Vata* (Air) and mitigating digestion, such as soaking millets in warm water before cooking, adding ghee to millet preparation, *Deepana-Pachanadravya* (Drugs that enhance digestion) and *VataShamakaPrakshepakas* (Spicesthat pacify *Vata*), and *Matra* (quantity and frequency) should be regulated according to the individual. It has been found that traditional millet processing methods such as soaking and cooking helpminimizeanti-nutritionalcomponents while increasing the nutritional quality andbioavailabilityofmilletgrains.

Synergy of Ethnopharmacology and AYUSH Aahar:

Ethnopharmacology and AYUSH Aahar have a shared goal: to harness the wealth of traditional knowledge to promote health and wellness. Ethnopharmacological investigations providescientificlegitimacyfortraditional

medicines by demonstrating their efficacy and safety. This study complementsinitiativeslikeAYUSHAahar by discovering therapeutic plants and dietary behaviours that are consistent withtraditionalhealthconcepts.

Furthermore,AYUSHAaharoffersavenue for incorporating ethnopharmacological results into public health programs. By blending traditional foods and medicinal plants into dietary guidelines and healthcare programmes, AYUSH Aahar bridges the gap between traditional wisdomandcurrenthealthcaremethods. This synergy has enormous promise for improving holistic health and safeguarding cultural heritage in an increasingly globalised world.

1. **Preserving Traditional Knowledge:**Ethnopharmacologyprotects centuries-old therapeutic methods passeddownthroughgenerations.Aswe looktothefuture,thereisanurgentneed to capture, validate, and integrate this treasureofknowledgeintocontemporary healthcare systems. By working with indigenous people and researchers, ethnopharmacology can ensure the preservation and appropriate use of traditional healing techniques.

2. **Drug Discovery and Development:**Traditional medicine's diverse plant species include numerous potential medicinal ingredients. Ethnopharmacologicalinvestigationsare critical in identifying bioactive compounds in medicinal plants, which pave the road for medication discovery and development. As technology and analyticaltechniquesprogress,the future holdsenormouspromiseforaccessingthe

medicinal potential of traditional remedies.

3. Personalized Medicine and Holistic Health:

Traditional medicine emphasizes individual differences in health and disease. Ethnopharmacology embraces this concept by advocating for customized healthcare that takes into account not just physical symptoms but also mental, emotional, and spiritual wellbeing. AYUSH Aahar complements this by pushing for dietary practices that are suited to individual constitutions and health demands, promoting overall health and wellness.

4. Integrative Healthcare Systems:

With the merging of traditional and modern medicine, integrative healthcare systems are gaining popularity. Ethnopharmacology bridges the gap between traditional healing techniques and evidence-based medicine, allowing for collaboration and discourse across healthcare paradigms. AYUSH Aahar complements this integrative approach by encouraging the inclusion of traditional foods into current dietary patterns for improved health outcomes.

5. Sustainable Health and Environmental Conservation:

Traditional medicinal herbs are closely linked to the habitats in which they thrive. Ethnopharmacology emphasizes the need for sustainable harvesting procedures and environmental conservation to maintain the long-term supply of medicinal materials. AYUSH Aahar promotes the eating of locally derived, seasonal foods, which fosters a connection to the earth and promotes environmental sustainability.

Conclusion: To summarize, the future prognosis for linking traditional wisdom with modern health via ethnopharmacology and AYUSH Aahar is bright and hopeful. By honoring our ancestors' wisdom, embracing scientific innovation, and encouraging holistic approaches to health and wellbeing, we can create a future in which traditional and modern medicine coexist to enhance the well-being of individuals and communities.

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