

IKSHU (SACCHARUM OFFICINARUM LINN.) IN TRADITIONAL AND MODERN MEDICINE - A NUTRITIONAL AND THERAPEUTIC PERSPECTIVE: REVIEW ARTICLE

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ABSTRACT

Ikshu (*Saccharum officinarum* Linn.), commonly known as sugarcane, is a widely cultivated and well-loved crop. In Ayurveda, *Ikshu* holds great significance as it is utilized both as food (*Ahara*) and medicine (*Aushadha*). *Acharya Bhavamishra* even dedicated an entire category to *Ikshu* in his *Bhavaprakasha Nighantu*. It is consumed in its raw form as juice and also processed into various derivatives that are valued for their therapeutic properties. *Ikshu* is often used as a primary ingredient or as an *Anupana* alongside other medications. It is characterized by its *Madhura rasa* (sweet taste), *Guru* (heavy), and *Snigdha* (unctuous) *guna*, with *Sheeta* (cooling) *veerya* and *Madhura* (sweet) *Vipaka*. *Ikshu* is known for its actions like *Mutrala* (diuretic), *Dahaprashamana* (alleviating burning sensations), and *Vrishya* (aphrodisiac).^[4] Primarily, it pacifies *Pitta* and supports the health of the *Mutravaha srotas* (urinary system). Modern research has revealed

that *Ikshu* is a powerhouse of phytochemicals, including Vitamin D, Phenolic compounds, plant sterols, and many more.

INTRODUCTION

Ikshu has been cherished for centuries in Ayurveda for its remarkable ability to cleanse and

rejuvenate the body. In today's world, where stress, poor dietary habits, and environmental toxins affects our health, *Ikshu* stands out as a natural remedy to restore balance and vitality. With its sweet taste and cooling properties, it is not only a favourite for its flavour but also for its profound therapeutic benefits.

Ikshu plays a dual role in Ayurvedic medicine as both a detoxifier and a rejuvenator. Its ability to pacify *Pitta* and *Vata* doshas, while nourishing body tissues, makes it invaluable for promoting overall health and well-being. Ayurvedic texts highlight its role in cleansing the plasma, supporting liver function, and enhancing immunity. Modern research supports these traditional claims, showing that *Ikshu* is rich in antioxidants, essential minerals, and phytochemicals that aid in detoxification and cellular repair. Whether consumed as fresh juice or included in herbal formulations, *Ikshu* balances the body's systems, boosts energy, promotes vitality, and enhances resistance against stress.

In Ayurveda, health is seen as a delicate balance of the body, mind, and spirit, and *Ikshu* plays an important role in maintaining this harmony. From flushing out toxins and nourishing the tissues to boosting energy levels, this humble plant provides a holistic solution to many modern health challenges. By harnessing the detoxifying and rejuvenating properties of *Ikshu*, we can embrace a healthier, more vibrant life.

Ikshu is a tall perennial grass native to tropical regions, recognized by its thick, jointed stems filled with sweet, nutrient-rich sap. It is rich in carbohydrates, vitamins, and minerals. *Acharya Charaka* described *Ikshu* as *Sreshtha Mutrajanana* (an excellent diuretic).^[3] Due to its *Guru* (heavy), *Snigdha* (unctuous) properties, *Madhura* (sweet) taste and *Vipaka*, and *sheeta veerya*, it has best diuretic property.

Nutritionally, *Ikshu* is packed with essential minerals like phosphorus, calcium, iron, magnesium, and potassium, making it an excellent addition to a healthy diet.^[1]

AIMS AND OBJECTIVES

To review, compile and analyse the literature regarding classical and modern references.

MATERIALS AND METHODS

A thorough review of literature on *Ikshu* has been done by reviewing *Brihatrayee*, *Nighantus* and other sources. This article is based on Ayurvedic Samhitas and relevant modern literature.

TYPES OF IKSHU

According to *Bhavaprakasha Nighantu* thirteen *prajaatis* are well described.^[2]

Ayurvedic Perspective of *Ikshu*

Acharya Bhavamishra, in his *Bhavaprakasha Nighantu*, dedicated an entire section to *Ikshu*, emphasizing its multifaceted benefits.^[2] The plant is described as having a sweet (*Madhura*) taste, unctuous (*Snigdha*) and heavy (*Guru*) qualities, cooling (*Sheeta*) potency, and a sweet post-digestive effect (*Vipaka*).^[4] These properties make it highly effective in pacifying *Pitta* and *Vata* doshas, while supporting overall nourishment and tissue vitality.

Therapeutic actions of *Ikshu* in Ayurveda include

- **Diuretic (*Mutrala*):** *Ikshu* is praised for its ability to promote urination, helping to eliminate toxins and maintain kidney health.
- **Cooling (*Dahaprashamana*):** Its cooling nature is beneficial for reducing burning sensations and soothing inflammatory conditions.
- **Rejuvenating (*Rasayana*):** Sugarcane supports tissue regeneration and enhances vitality, making it an excellent restorative remedy.
- **Aphrodisiac (*Vrishya*):** It is believed to strengthen reproductive health and promote overall strength.

Nutritional Value of *Ikshu*

Sugarcane is a rich source of essential nutrients, including carbohydrates, vitamins, and minerals.^[1] Its nutritional profile includes.

- **Carbohydrates:** A natural source of energy, primarily in the form of sucrose.
- **Minerals:** Rich in calcium, phosphorus, iron, magnesium, and potassium, which contribute to bone health, muscle function, and electrolyte balance.
- **Vitamins:** Contains small amounts of B-complex vitamins, supporting metabolic processes.
- **Antioxidants:** Phenolic compounds and flavonoids in sugarcane sap help neutralize free radicals, reducing oxidative stress and inflammation.

Therapeutic Applications in Modern Medicine

Modern studies have corroborated many of the traditional uses of *Ikshu*, demonstrating its potential in managing a variety of health conditions.

- **Liver Health:** Sugarcane juice has hepatoprotective properties, aiding in the recovery of

liver disorders such as jaundice by promoting detoxification and regeneration of liver tissues.^[1,6]

- **Digestive Health:** The alkaline nature of sugarcane helps balance stomach acidity, while its unctuous quality soothes the gastrointestinal tract, alleviating conditions like hyperacidity and constipation.
- **Kidney Function:** Its diuretic effect supports kidney health by facilitating the elimination of toxins and preventing urinary tract infections.^[1]
- **Energy Booster:** The natural sugars in Ikshu provide an instant energy boost, making it a preferred choice for athletes and individuals recovering from illnesses.
- **Skin Health:** The glycolic acid in sugarcane juice acts as a natural exfoliant, promoting healthy and glowing skin by removing dead cells and hydrating the skin.
- **Anti-inflammatory Effects:** The bioactive compounds in sugarcane exhibit anti-inflammatory properties, making it beneficial for conditions like arthritis and other inflammatory disorders.^[7]

Phytochemical Richness

Research has identified several bioactive compounds in sugarcane, including.

- **Plant Sterols:** Contributing to cholesterol regulation and cardiovascular health.
- **Flavonoids:** Offering antioxidant and anti-inflammatory effects.
- **Policosanols:** Known for improving lipid metabolism and reducing bad cholesterol levels.
- Promoting Sustainability and Innovation

Sugarcane cultivation is not only important for its therapeutic benefits but also for its economic and environmental impact. The All India Coordinated Research Projects on Sugarcane (AICRP-S) has identified over 116 varieties of sugarcane, encouraging agricultural innovation to enhance its therapeutic potential⁵. Future research should focus on developing biofortified varieties enriched with specific nutrients and active compounds.

Integrating *Ikshu* into Daily Life

Sugarcane can be consumed in various forms to reap its benefits.

- **Fresh Juice:** A natural, refreshing beverage with detoxifying and energizing properties.
- **Traditional Preparations:** Used as an ingredient in Ayurvedic formulations for its therapeutic value.

- **Sugarcane Products:** Jaggery and molasses retain more nutrients than refined sugar, making them healthier sweetening alternatives.

DISCUSSION

Ikshu plays a vital role in both traditional Ayurveda and modern health science, offering detoxifying, rejuvenating, and therapeutic benefits. It is distinguished in Ayurveda for pacifying Pitta and Vata doshas, it provides relief from burning sensations, supports urinary health, and nourishes tissues. Rich in carbohydrates, essential minerals, and antioxidants, sugarcane promotes bone health, metabolic function, and cellular repair.

Its bioactive compounds detoxify the liver, enhance digestion, and provide an energy boost. However, excessive consumption of refined sugarcane products can lead to health issues like obesity and diabetes, emphasizing the importance of using natural, minimally processed forms like juice or jaggery. Modern research explores its potential for gut health, immunity, and managing chronic conditions. Combining the wisdom of tradition with the rigor of modern science, *Ikshu* provides innovative, holistic solutions for contemporary health issues.

REFERENCES

1. <https://www.easyayurveda.com/2010/12/01/sugar-cane-juice-benefits/>
2. Bhavaprakasha of Bhavamishra, by Chunekar K. C, Pandey G, Edited with Bhavaprakasha Nighantu (Indian materia medica), Chaukhamba Bharati Academy, Gopal Mandir Lane, Varanasi-221001 *Ikshuvarga*, shloka, 2018; 1-20: 776-780.
3. Dr. Brahmanand Tripathi, Carak samhita Hindi Commentry, Chaukhambha Surbharti Prakashan, Varanasi, Reprint edition (Ch.Su. 25/40), 2016; 453.
4. Dravyaguna vijnana. vegetable drugs of Prof. P.V. Sharma, Chaukhambha Bharti Academy Varanasi, reprint edition, 2011; 2: 638-640.
5. Shukla S K, Zubair. A, Awasthi. S. K, Pathak. A D, Sugarcane varieties identified by AICRP(S) in India, ICAR All India co-ordinated Research Project on Sugarcane, IISR Lucknow, 2018; 7.
6. Singh R, Shukla R. Protective effect of *Saccharum officinarum* Linn juice in paracetamol induced acute hepatotoxicity in albino rats. *Asian J. pharm. Res.*, 2021; 11(1): 17-22.
7. Agbaje Esther Oluwatoin, Ayinla Adebola Christina, **UjomoTejumade. Anti-inflammatory activity of *saccharum officinarum* Linn (poaceae) juice in animal models, *Research journal of pharmacology and pharmacy*, 2019; 3: 7.