SJIF Impact Factor: 6.711

WORLD JOURNAL OF ADVANCE HEALTHCARE RESEARCH

ISSN: 2457-0400
Volume: 9.
Issue: 2
Page N. 187-189
Year: 2025

Review Article www.wjahr.com

CONCEPT AND EXAMPLES OF RARE DRUG WITH SPECIAL EMPHASIS TO *SAUSSUREA COSTUS* (*KUTH*)

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Article Received date: 23 December 2024 **Article Revised date:** 12 January 2025 **Article Accepted date:** 01 February 2025

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ABSTRACT

Rare drugs are described as medicinal substances in Ayurvedic science which are not used commonly due to their inherent property and unique habitant behavior. The therapeutic potency and specialized uses in treating particular conditions make these drugs rare ones. These drugs offer unique pharmacological effects and considered valuable due to their ability to address complex health issues. *Saussurea Costus* (*Kuth*) is one such herb originated from China and India. The root and essential oil of this herb used traditionally in ancient practices for various purposes. The chemical compounds present in herb possess ability to kill parasites thus used for treating intestinal infections. The sesquiterpene lactones reported as major constituent of this herb which along with other constituents offers anti-inflammatory, anticancer, hepatoprotective and anti-ulcer activities, etc. Still, exploratory scientific research on this drug is very limited. Considering this view present article summarizes concept and examples of rare drug with special emphasis to *Saussurea Costus* (*Kuth*).

KEYWORDS: *Ayurveda, Saussurea Costus, Kuth, Rare drug.*

INTRODUCTION

The concept of rare drug is very unique and with their precise and specific activities, rare drugs occupy particular niche in Ayurveda. The exploration of ethical sourcing and scientific validation of pharmacological behavior of rare drug in modern health care system is very important. Some terminologies associated with rare drugs include *Apurva Dravya*, *Jangala Dravya* and *Anupa Dravya*. *Apurva Dravya* is substances which possess apparently new and unprecedented effects. *Jangala Dravya* of rare category growing in desert region while rare *Anupa Dravya* belongs from marshy or aquatic origins which are relatively inaccessible as compared to other compounds.[1-4]

Prachina and *Navina* are another important terms related to drugs which resembles ancient and modern drugs respectively. Some rare drugs listed in ancient texts only thus come under the heading of *Prachina* while *Navina* are relatively newly described drugs in modern practice. The characteristic of rare drugs is depicted in **Figure 1**.

Figure 1: Specific characteristics of rare drugs.

Uncommon habitat, specific therapeutic actions and restricted availability, etc. are major features of rare drugs. They are found in remote areas (uncommon habitat) at dense forests, desert region and high altitudes, etc. Rare drugs are useful in the treatment of specific diseases (specific therapeutic actions) and some of them are required special cultivation environment.

These drugs are commonly recommended for auto-immune diseases and infertility, etc. Most of these drugs come under the heading of *Rasayana*, thus provides longevity and vitality. The rare drug also helps in relieving inflammation by balancing *Vata dosha* thus used in painful conditions.[4-7]

Examples of rare drug include *Jivanti, Somalata, Somalata, Priyangu, Mamsarohini, Kapikacchu* and *Kshudra Bhallataka*, etc. *Saussurea Costus* (*Kuth*) is one such drug which possesses some specific indications and used anciently for therapeutic purposes. This article explores various aspects of this rare drug *Saussurea Costus* (*Kuth*).

***SAUSSUREA COSTUS* (*KUTH*):**

Costus is an herb that originated from China and India. The root and essential oil of this herb have been used traditionally in Ayurveda systems for several purposes. *Saussurea costus* offers therapeutic benefits in various ailments such as; inflammatory diseases, ulcer, stomach problem and asthma, etc. *Costus* oil can be consumed orally through the food.

Chemical Constituents of *Saussurea costus*

The major phytoconstituents includes costunolide, cynaropicrin and dehydrocostus lactone. These bio-molecules are considered responsible for the pharmacological activity of this plant. These bioactive compounds helps to kill parasites thus offers therapeutic role in infections especially intestinal problems. Sesquiterpene, alkaloids, flavonoids and anthraquinones, etc. also present in this plant.[6-8]

Therapeutic uses of *Saussurea costus*

The chemical constituents of plant displayed medicinal properties such as antifungal, antihelminthic, antitumor, antidiabetic and anti-hepatotoxic effects, etc. **Table 1** described therapeutic properties of *Saussurea costus*.[7-10]

Table 1: Therapeutic descriptions of *Saussurea costus.*

Therapeutic properties	Description
Anti-tumor Activity	Costunolide induces apoptosis and cytochrome c release. Dehydrocostus lactone helps in prostate cancer cells.
Anti-inflammatory Effect	It reduces inflammation; costunolide present in herb inhibits interleukin expression thus helps to reduce inflammatory problems.
Anti-ulcer Effect	Costunolide of herb exhibits anti-ulcer activity. Saussureamines of this herb protect against gastric mucosal lesions.
Immunomodulatory Effect	Dehydrocostus lactone inhibits auto-immune problems. *S. costus* show hypo-lipidemic effects thus may helps in obesity induced diabetes.

Precautions and Related Complications

- Pregnancy and breastfeeding, since insufficient information is available about the safety of *Kuth* during the pregnancy or breastfeeding conditions.
- *Kuth* may trigger allergic reactions especially in case where individual is allergic to this plant family.
- Products of *Kuth* may be sometimes contaminated with aristolochic acid; which is considered as a toxic substance to the kidneys and may increases risk of cancer.
- The topical use of this herb is also not very safe since there is insufficient information available on the safety of topical use of *Kuth*.
- The interaction of *Kuth* with other medicinal substances is yet to explore therefore should be consumed with other drugs according to the physician opinion.

Ayurvedic View on *Kuth*

Kuth is valued for its *Vata* and *Kapha doshas* balancing properties. It posses *Ushna Virya* thus used for ailments requiring hot potency of drugs. Due to its *Ushna* potency it can be used for managing conditions such as skin diseases, joint disorders, digestive problems and respiratory issues, etc. *Kushta's* root is commonly used in Ayurvedic formulations like *Churnas* and oils.

Kuth is renowned in Ayurveda for its *Deepan* and *Pachan* actions. The responsible Ayurvedic properties of *Kuth* are as follows.[11-14]

- *Rasa:* *Tikta*, *Katu* and *Madhur*
- *Guna:* *Laghu*, *Rooksha* and *Teekshna*
- *Virya:* *Ushna*

कुष्ठं उपनाहाभ्यङ्गोपयोगिनाम् ॥ कुष्टं वातहर अभ्यङ्ग उपयोगिनाम् ॥
चरक संहिता सूत्रस्थान २७
कुष्टं उष्णं कटु स्वादु शुक्रलं तिक्तकं लघु ॥ हन्ति वातास्र वीसर्प कास कुष्ट मरुत्कफान् ॥
कुष्टं वात कफ श्वास कास हिक्का ज्वरापहम् ॥ रा.व.नि

The specific characteristics of *Kuth* according to *Charaka Samhita* and *Nighantu* as mentioned in above quote are as follows.

- ✓ *Charaka Samhita Sutrasthana*:

Kuth is beneficial for poultices and massages. It is especially useful for alleviating *Vata*-related disorders and is ideal for external application in treatments.

✓ *Raja Nighantu*

Kuth is hot in potency, pungent, sweet, and bitter in taste. It is light and acts as a *Shukrala*. It alleviates *Vata*, *Astra*, *Visarpa*, *Kasa* and *Kushtha*, it also pacifies *Vata* and *Kapha doshas*. It is also effective in managing respiratory issues (*Shwasa*), *Kasa*, *Hikka* and *Jwara.*

According to traditional texts it acts as a nervine tonic and helps in wound healing. It referenced in Ayurvedic texts for detoxifying effect. The specific therapeutic application of *Kuth* according to Ayurveda is depicted in **Table 2.**[11-14]

Table 2: Indications of *Kuth* according to Ayurveda.

Property	Application
Shukrala	Enhances sperm production.
Vatasrahara	Beneficial in managing gout.
Kasahara	Alleviates intense cough and cold symptoms.
Kushtahara	Effective in treating persistent skin disorders.
Shwasahara	Supports treatment of asthma and other respiratory conditions.
Hikkahara	Relieves chronic hiccups.
Jwarahara	Reduces high fever.

CONCLUSION

There are many challenges associated with rare drugs including their sustainability issues, destruction of habitat and overexploitation, etc. These aspects became causes of their scarcity in current scenario. Moreover lack of proper identification and standardization techniques create ethical issues regarding their originality and authentication. Protection and conservation of such species are prerequisite to improve their availability for therapeutic purposes. Research on cultivation efforts may overcome the problem of availability of rare species. Pharmacological research in new dimensions of scarce drugs is also requires to explore their therapeutic range. With regard to one of the rare drug *Kushta* it can be stated that this drug offers many medicinal properties and has potential uses in traditional remedies. However potential contamination with aristolochic acid and lack of scientific information create obstruction in its medicinal applicability. Therefore it becomes very important to use such types of drugs after the proper scientific validation and safety information.

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