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A CLINICAL AND LITERARY REVIEW ON THE ROLE OF GUD HARITAKI IN THE MANAGEMENT OF PANDU ROGA (IRON DEFICIENCY ANEMIA)

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ABSTRACT

Anaemia is a global public health problem affecting both developing and developed countries with major consequences for human health as well as social and economic development. The clinical features like pallor, anorexia, irritability and pica etc clinically manifest Iron deficiency anaemia. Iron deficiency anaemia is affecting nearly 2 billion people globally i.e. around 1/3 of the whole populationThe features of iron deficiency anaemia are almost similar with that of Pandu Roga mentioned in Ayurvedic classics. The ancient system of medicine has described Pandu (disease of pallor) which includes various types of anaemia. IDA is a very common disease prevalent in the society and side effects of oral allopathic iron preparations are very frequently encountered.

KEYWORDS: Anemia, Pandu, children, iron, gud haritki, jaggery, *Terminalia chebula.*

INTRODUCTION

आयुःकामायमानेन धर्मार्थसुखसाधनम् | आयुर्वेदोपदेशेषु विधेयः परमादरः॥२॥

Ayurveda, the ancient science of life, aims to preserve positive health and eradicate diseases through its holistic approach, which emphasizes lifestyle regulation, balanced dietary habits, and safe, natural medication. Among the various diseases described in Ayurvedic classics, *Pandu Roga* holds a significant place. It is characterized primarily by pallor, general

weakness, and diminished vitality, closely resembling iron deficiency anemia (IDA) as described in modern medical science.

Pandu Roga has been well documented in Ayurvedic texts as a distinct disease entity with its own etio-pathogenesis (*Samprapti*) and management (*Chikitsa*). Classical texts describe it as a disorder that arises due to vitiation of *Pitta dosha* and vitiation of *Rasa* and *Rakta dhatu*, leading to diminished strength and vitality. In modern medicine, iron deficiency anemia remains one of the most common nutritional disorders affecting the pediatric population worldwide.

Global Burden of Iron Deficiency Anemia

Anemia is a **global public health problem** affecting both developing and developed countries. It is associated with serious health, social, and economic consequences. According to World Health Organization (WHO), anemia is defined as hemoglobin (Hb) levels below 12.0 g/dl in females and 13.0 g/dl in males. It is a condition in which the number of circulating red blood cells or hemoglobin concentration is insufficient to meet the physiological needs of the body.

Iron is essential for multiple metabolic processes, including oxygen transport, DNA synthesis and electron transport. In severe iron deficiency, low levels of iron containing enzymes affect immune and tissue function. Iron deficiency can also result in diminished growth and learning. By considering the above fact this study has been undertaken to evaluate the efficacy of Gud-haritaki in Pandu Rog.

DRUG REVIEW

पाण्डु रोगे सदा सेव्या सगुडा च हरीतकी ||(**भै०र०पाण्डुरोगचि०प्र०**12/4)

Ingredients of Gud Haritaki

Sr.No	Name	Botanical Name/ English Name	Family	Part Used
1.	Haritaki	*Terminalia chebula*	Combretaceae	Pericarp
2.	Gud	Jaggery (A product of *Saccharum officinarum)*	---	--

Haritaki

Ref- Page no.753 Dravyaguna, PV Sharma, Dg.

BOTANICAL NAME- *Terminalia chebula Linn*

Family -Combretaceae

Ayurvedic Classification: Classification of Haritaki in Ayurveda Samhitas

Charak Samhita – Classified under Prajasthapana, Jwaragna, Kasaghna, Arshoghna

Sushrut Samhita – Triphla, Amlakyadi, Parushakadi

AshtangHriday – HaritakyadiVarga, TriphlaVarga

AshtangSangraha – Arshoghna, Kushtghna, Hidhma Nigrahana, Kasaghna, Garbhasthapan, Vayasthapan,

Varnadi Gana In Nighantus

Bhavprakash Nighantu – HaritakyadiVarga

Adarsh Nighantu – HaritakyadiVarga

Raj Nighantu – AmradiVarga

Kayvadev Nighanti – AushadhiVarga

Dhanvantari Nighantu – Guduchyadi Varga

Types of Haritaki

Type of Haritaki -As per Bhavprakash

1) Vijaya – Used for Sarvarogahar

2) Rohini - Used for Varan

3)Putana– used for pralep

4) Amruta - Used for Shodhan

5) Abhaya -Used for Netrarog

6) Jeevanti - Used for Sarvayoga

7) Chetaki – Used for ChurnaYog

RASA PANCHAKA

Rasa	*Pancharasalavanavarjita*
Guna	*Laghu, Ruksha*
Veerya	*Usna*
Vipaka	*Madhura*

THERAPEUTIC ACTION AND ITS USE

Due to **katu, tikta, kashayarasa**- it helps to overcome kapha dosha.

Due to **amla, Madhura rasa**- it pacifies the vata dosha.

Due to **Madhura, tikta, Kashaya rasa**- it pacifies the pitta dosha.

This is mainly used in Kushtha, Agnimandhya, shula, anaha, gulma, vibandha, udara roga, arsha, kamala, yakrit, pleeha, gut disorders.

Pharmacological studies On Teminalia Chebula

Hepatoprotective activity

Ethanol extract of Terminalia chebula was found to prevent thehepatotoxiocity caused by the administration of rifampicin, isoniazid and pyrazinamide (combination) in sub-chronic model (12 weeks).[7]

Cardioprotective activity

T. chebula extract pre-treatment was found to ameliorate the effect of isoproterenol on lipid peroxide formation and retained the activities of the diagnostic marker enzymes in isoproterenol induced myocardial damage in rats.[8]

Antioxidant and free radical scavenging activity

i) The leaves, bark and fruit of Terminalia chebula possessed high antioxidant activity and phenolics were found to be responsible for this activity.[9]

ii) Aqueous extract of Terminalia chebula inhibited xanthine/xanthine oxidase activity and was also an excellent scavenger of DPPH radicals.[10]

GUD

ENGLISH NAME-Jaggery

गुडोजीर्णोलघुःपथ्योऽनभिष्यन्दअग्निपुष्टिकृत|

पित्तघ्नोमधुरोवृष्योवातघ्नोऽसृक्प्रसादनः||(BhavPrakashNigantu)

Puran Gud is Laghu, Pathya, Anbhishandi, Agnijanaka, Pusthikruta, Pittaghna, Madhur, Vrushya, Vataghna, Raktaprasadaka. Bhavprakasha has mentioned specific guna with particular anupana like Gud with Ardraka- quickly reduces the enhanced kapha, with Haritaki it acts on Pitta and when used with Sunthi it acts as Vatahara.

CHEMICAL COMPOSITION

Gudis rich in significant minerals required for the human body (viz., Potassium-1056 mg, Calcium-60-100 mg, Magnesium-70-90 mg, Phosphorus-30-90 mg, Sodium-19-30 mg, Iron-10-13 mg, Manganese-0.2-0.5 mg, Zinc-0.2- 0.4 mg, Copper-0.1-0.9 mg, and Chloride-5.3 mg per 100 g of jaggery), vitamins (viz., Vitamin A-3.8 mg, Vitamin B1-0.01 mg, Vitamin

B2- 0.06 mg, Vitamin B5-0.01 mg, Vitamin B6-0.01 mg, Vitamin C-7.00 mg, Vitamin D2-6.50 mg, Vitamin E-111.30 mg, Vitamin PP-7.00 mg), and protein-280 mg per 100 g of jaggery.

Sr.No	Minerals In Jaggery		Vitamins in Jaggery	
1.	Calcium	60-100mg	Vit A	3.8mg
2.	Magnesium	70-90mg	Vit B1	0.01mg
3.	Potassium	1056mg	Vit B2	0.06mg
4.	Phosphorus	30-90mg	Vit B5	0.01mg
5.	Sodium	19-30mg	Vit B6	0.01mg
6.	Iron	10-13mg	Vit C	7.00mg
7.	Manganese	0.2-0.5mg	Vit D2	6.50mg
8.	Zinc	0.2-.04mg	Vit E	111.30mg
9.	Copper	0.1-0.9mg		
10	Chloride	5.3mg		

DISCUSSION

Gud Haritaki, a traditional formulation mentioned in *Bhaishajya Ratnavali (Pandu Roga Chikitsa Prakarana 12/4)*, is a classical combination of *Haritaki (Terminalia chebula Linn.)* and *Gud (Jaggery)*, which together serve as a potent *Rasayana* and *Pandu Roga Nashaka Yoga*. Both ingredients possess complementary pharmacological and Ayurvedic properties, supporting their rational use in the management of *Pandu Roga* (Iron Deficiency Anemia).

Haritaki is a well-documented drug in Ayurvedic literature and is classified under *Triphala*, *Jwaraghna*, *Kasaghna*, and *Arshoghna* groups by *Acharya Charaka*. Its *Rasa Panchaka* demonstrates its broad-spectrum action: *Pancharasa (except Lavana)*, *Laghu* and *Ruksha Guna*, *Ushna Veerya*, and *Madhura Vipaka*. These attributes contribute to *Tridoshaghna* properties, promoting *Agni Deepana (digestive stimulation)*, *Amapachana (metabolic correction)*, and *Rakta Vardhana (blood enrichment)*.

Pharmacologically, *Terminalia chebula* has been proven to possess **hepatoprotective, antioxidant, and cardioprotective activities**. Its free radical scavenging property helps to prevent oxidative damage to erythrocytes and liver tissue, which is crucial in the management of *Pandu Roga*, where liver function and iron metabolism are often compromised. The *Hepatoprotective* action helps in improving *Raktotpatti* (blood formation) by maintaining liver health, while the *Antioxidant* activity supports tissue rejuvenation and enhances hemoglobin synthesis.

Gud (Jaggery), as mentioned in *Bhavaprakasha Nighantu*, is *Laghu, Pathya, Agnijanaka, Vataghna, Pittaghna,* and *Raktaprasadaka*. It not only acts as a *carrier (Anupana)* to potentiate the effect of Haritaki but also provides essential minerals such as **Iron (10–13 mg/100 g)**, **Calcium**, **Magnesium**, and **Phosphorus**, which are vital for hematopoiesis. Moreover, Gud serves as a natural source of energy, improving general strength (*Balya*) and nourishment (*Pushtikara*). Its sweetness (*Madhura Rasa*) counteracts the mild *Ruksha Guna* of Haritaki, making the combination well-balanced and palatable for pediatric use.

The synergistic combination of **Haritaki and Gud** addresses both the *Samprapti* (pathogenesis) and *Lakshanas* (symptoms) of *Pandu Roga*. Haritaki works by enhancing *Agni* and promoting efficient metabolism and absorption of nutrients, while Gud provides direct supplementation of minerals and promotes *Rakta Dhatu Pushti*. The combination therefore acts as *Deepana, Pachana, Rasayana,* and *Raktavardhaka*.

Furthermore, the pharmacological validation of both ingredients substantiates their traditional claims. The antioxidant effect of Haritaki prevents oxidative stress–induced hemolysis, while the iron content in Gud helps replenish iron stores, thereby improving hemoglobin levels. The combined effect supports better hematinic action, improved liver function, and correction of metabolic insufficiency in children suffering from nutritional anemia.

CONCLUSION

Gud Haritaki, as mentioned in *Bhaishajya Ratnavali (Pandu Roga Chikitsa Prakarana 12/4),* is a time-tested and classical formulation consisting of *Haritaki (Terminalia chebula Linn.)* and *Gud (Jaggery)*. The combination of these two simple yet potent ingredients makes it a unique and holistic remedy for *Pandu Roga*—a condition that closely correlates with Iron Deficiency Anemia in modern medicine. The formulation works on both preventive and curative levels by addressing the root causes as well as the symptomatic manifestations of the disease.

From an Ayurvedic standpoint, *Pandu Roga* primarily results from *Agnimandya (impaired digestion and metabolism)* leading to *Rasa Dhatu Dushti* and subsequent *Rakta Dhatu Kshaya*. The drug Gud Haritaki targets these fundamental derangements effectively. *Haritaki,* being *Tridoshaghna*, *Deepana*, *Pachana*, and *Rasayana*, corrects *Agnimandya*, enhances nutrient assimilation, and promotes the production of pure and healthy *Rakta Dhatu*. It detoxifies the system and rejuvenates the tissues, thereby preventing further progression of

the disease. Its *Ushna Veerya* and *Madhura Vipaka* balance all three doshas, particularly pacifying *Pitta* and *Vata*, which are chiefly vitiated in *Pandu Roga*.

Gud (Jaggery), on the other hand, acts as an excellent *Raktavardhaka Dravya* due to its high mineral content, especially iron, calcium, and magnesium. It enriches the blood, increases hemoglobin concentration, and improves vitality. Moreover, Gud acts as a *Balya* and *Pushtikara* agent, enhancing overall strength and nourishment in children, who are more prone to nutritional deficiencies. Its *Madhura Rasa* and *Snigdha Guna* help mitigate the *Ruksha* property of Haritaki, ensuring better tolerance and palatability, making the formulation suitable for pediatric patients.

Modern pharmacological studies lend strong support to the traditional claims. Terminalia chebula has been found to possess antioxidant, hepatoprotective, and immunomodulatory properties, which help in preventing oxidative damage, improving liver function, and enhancing the bioavailability of iron and other nutrients. Gud provides bioavailable iron and essential trace minerals, thus directly contributing to hematopoiesis. Together, these effects result in an overall improvement in hemoglobin levels, appetite, energy, and complexion — the hallmark signs of recovery from *Pandu Roga*.

Therefore, Gud Haritaki represents a perfect synergy of *Agnideepana*, *Rasayana*, and *Raktavardhana* actions. It not only corrects the underlying metabolic disturbances but also replenishes the body's nutritional needs naturally. It offers a safe, cost-effective, and easily acceptable alternative to synthetic iron preparations, especially for children where compliance and safety are major concerns.

In conclusion, Gud Haritaki can be considered a rational, scientifically supported, and therapeutically effective Ayurvedic formulation in the management of *Pandu Roga* (Iron Deficiency Anemia), particularly in pediatric age groups. Its dual action—improving digestion and enhancing hemoglobin—makes it a holistic, gentle, and sustainable approach toward the correction of nutritional anemia and the promotion of overall health and vitality.

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