

THERAPEUTIC REVIEW ON AN AUSPICIOUS GRASS: DURVA (*CYNODON DACTYLON* LINN. PERS): FROM KOSHA AND NIGHANTUS

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ABSTRACT

Durva (*Cynodon dactylon* Linn. Pers., Family- Poaceae), is a perennial herbaceous creeping grass distributed throughout India, ascending up to 1500 m in the lower Himalayas. It is one of the ten medicinal plants that constitute the group 'Dashapushpam', culturally and therapeutically linked to folk of Kerala. The species possesses immense therapeutic as well as other potential uses. In this work a Nighantu of Sushruta named Saushruta Nighantu and another by Vagbhata the Ashtanga Nighantu are discussed. Ayurvedic medicare system has attained popularity at global level to replace the synthetic chemicals as they have shown less adverse reactions. Plants have been

one of the important sources of medicines since the beginning of human cultivation. There is a growing demand for plant based medicines, health products, pharmaceuticals, food supplements, cosmetics etc. The present work aims to discuss Durva in various Nighantus as manuscripts for just as evidence - in a chronological order.

KEYWORDS: Durva, Ayurveda, Nighantu, *Cynodon dactylon*.

INTRODUCTION

The Durva grass is an auspicious grass used in the worship of the Lord Ganesha, the God who removes the obstacles from the path of his devotees. For any worship, pooja or ritual for Hindus has to start with the worship of Lord Ganesha. The other names of the Durva

grass are Arugampul(Tamil-India), Bahama Grass, Bermuda Grass (U S), Couch Grass (Australia), Devil's Grass, Dog's Tooth Grass, Doob (name in Hindi, India), Garike hullu (in Kannada, India), Grama, Indian Doab, Kabuta (Fiji), Karuka (in Malayalam, India), Quick grass (South Africa), Scutch Grass and *Cynodon dactylon* (in Latin). *Cynodon dactylon* (L.) Pers. is a perennial grass belonging to family Poaceae that has a variety of medicinal properties.^[1] It is found throughout the tropics and subtropics. Whole herb and its root stalk are used for medicinal use.^[2] It is native to north and east Africa, Asia and Australia and southern Europe. In Ayurveda *Cynodon dactylon* shows many pharmacological activities like antidiabetic,^[3] antioxidant,^[4] antidiarrheal,^[5] hepatoprotective,^[6] antiulcer,^[7] immunomodulator,^[8] CNS depressant,^[9] antimicrobial and anticancer.^[10] An investigation showed that the aqueous extract of *Cynodon dactylon* has high antidiabetic potential along with significant hypoglycemic and hypolipidemic effects.^[11] The plant contains crude proteins, carbohydrates, and mineral constituents, oxides of magnesium, phosphorous, calcium, sodium and potassium. The whole plant affords β -sitosterol, flavonoids, alkaloids, glycosides and triterpenoids.^[12] *Cynodon dactylon* contains many chemical constituents like Hexadecanoic acid, Linolenic acid, ethyl ester, Hydroquinone, d-mannose etc.^[13] This tradition was also adopted by the Ayurvedic scholars to clarify the technical words specially in the field of Dravyaguna. Earlier Nighantus were limited to explain the synonyms only. The Nighantu literature is one of the important aspects in the study of Ayurveda and specially in the subject of Dravyaguna Vijnana. The Nighantu literature is also as ancient as Ayurveda. Much importance has not been given to the study of Nighantu. The ancient Nighantus were actually like Kosha, containing the synonyms of Dravya. Later on, the drugs were given the description of properties, actions and their uses. In true sense the Nighantu means collection of words, synonyms and the names of the medicinal substances. Ramavatar Sharma in his introduction to Kalpadru Kosha of Kesava uses the term Nighantu for the glossaries connected with Ayurveda. To understand precisely what is aimed at these glossaries are called as 'Ayurveda Nighantu'. The Nighantu may be defined as a glossary containing synonymous groups, the names of the drugs, plants, animals, minerals or anything that is administered either as food or medicine to the human body. Natural products are important source of new structures leading to drugs in all major disease areas. They represent a pool of privileged structures that are optimized by evolution to interact with proteins and other molecules.^[14] The starting materials for about one-half of the medicines we use today come from natural sources. The future of higher plants as sources of medicinal agents for use in investigation, prevention, and treatment of diseases is also very promising.^[15] Natural

products have provided us some of the important life saving drugs used in the armamentarium of modern medicine. However, among the estimated 250,000-400,000 plant species, only 6% have been studied for biological activity, and 15% have been investigated phytochemically. This shows a need for planned activity guided phyto-pharmacological evaluation of herbal drugs. This article intends to provide an overview of the chemical constituents present in various parts of Durva and their pharmacological actions. Durva is explained in almost all the important Nighantus with a variety of synonyms and Guna-karmas.

Amarkosha (5th cent. A.D.)

This book is the compilation done by Amar Singh. In this book total subject was divided into three parts. First and second parts include 10 chapters each and third part comprises of 5 chapters. The total subject was narrated with synonyms Durva has been mentioned in the Vanausadhi Varga and its synonyms are Durva, Shatparvika, Sahasravirya, Bhargavi, Ruha, Ananta.^[16]

Saushruta nighantu: (6th Cent. A.D.)

Based on Susruta samhita. In this Nighantu Durva has not been mentioned.^[17]

Ashtanga nighantu: (8th Cent. A.D.)

In this Nighantu, Acharya Vahata has described maximum group of drugs on the basis of classification of Ashtanga Sangraha and Astanga Hridaya. In addition, some drugs are also mentioned in Viprakirna varga. In this Nighantu Durva has been described in Shyamadi varga. Following synonyms are mentioned here i.e. Shari, Suvrata, Gyeya, Gandhadwa, Somsambhava, Sita, Golomi, Durva, Sahasravirya, Shadwala.^[18]

Dhanvantari nighantu: (10th - 13th Cent. A.D.)

In the beginning of Nighantu, author pays homage to lord Dhanawantari and again he mentions its name as Dravyavali. At the end of Dravyavali author desires to describe the drugs of Dravyavali with their synonyms and after that he has described their properties and actions along with synonyms. In this Nighantu Durva has been described in 'Karaviradivarga'. Following synonyms are mentioned here i.e. Niladurva - Sashpa, Sadvala, Harita, Shatvirya, Shataparva, Satvalli, Sitala; Sveta durva - Golomi, Svetadanda, Sita, Lata, Sahasravirya, Anata, Durmara, Bhargavi, Ruha; Gandadurva - Gandali, Tivra, Matsyaksika,

Bahli, Nadiklaya, Varuni and Shakulakshika. Durva is cold, astringent ,cures bleeding diathesis and pacifies Kapha.^[19]

Sodhala nighantu: (12th Cent. A.D.)

This Nighantu was composed by Acharya Sodhala in two parts named as Namasangraha dealing with synonyms and Gunasangraha dealing with properties and actions. In 'Karaviradi varga of Sodhala nighantu synonyms of durva – Niladurva- Niladurva, Harita, Sashpa, Sadvala, Satapuspa , Satavirya, Sataparva, Sita, Lata, Amrita, Tvamari, Saumya, Sitali, Amara; Sveta durva- Golomi, Svetapatra, Sita, Lata Sahasravirya, Anata, Durmara, Bhargavi, Ruha,are mentioned. Useful in the treatment of Raktapitta, Kandu, skin disorders.^[20]

Hridayadipaka nighantu: (13th Cent. A.D.)

The author of this work is Bopadeva son of Keshava. The subject matter of this work is well divided into eight Vargas. It follows metric style of Paryaya ratnamala of Madhava. In this Nighantu Durva has been mentioned in Kaphapittaghna varga, with its synonym – Kakjangha, Nisha haridra, Dhwangkshajangha, Musta gangeyi, Trayanti trayamada, Pundariyakah, Prapaundarikah, Balakam rhevaram , Kat trinam dhyamam, Durva shadvalam, Darbhah kushah, Maruvakah kharbukah , Nalo devnalah.^[21]

Abhidhanaratnamala (Shadrassa Nighantu) (13th Cent. A.D.)

In Abhidhanratnamala synonyms of Durva are described in Madhura dravya skandha. Following synonyms are mentioned here Sahasravirya, Golomi, Sita, Ananta, and Gandapriya, are synonyms of Sveta durva and Harita, Shadvala, Asita are the synonyms of Niladurva.^[22]

Madhava-dravyaguna: (13th Cent. A.D.)

In Madhava dravyaguna Durva is described in Vividh-aushadi varga. Here Durva is described as Raktapittahari, Kandutvagdosha nashini, Pandumehapachi Pittatvag dosha vishiginnisha.^[23]

Madanpala nighantu: (14th Cent. A.D.)

Durva has been mentioned in “abhayadi varga”. Madanpala has included following synonyms of Durva: Nildurva- Shasya , Shitkari , Golomi , Sataparvica; Sveta durva- Sveta, Svetadanda, Durmata, Bhargavi, Ruha; Gandadurva – Matsyagandha , Matsyakshi, and Shakuladini Regarding its properties it has been said as Shital Dravya. Nildurva and

Svetadurva is used as Visarpa , Rakta, Pipasa, Pitta , Kapha and Dah shamak.^[24] Ganda durva is used as Lauhdravini, Malbandhak, Dah, Trisha, Kapha, Rakta, Kushtha, Pittajwar vinashini.

Kaiyadev nighantu: (Pathyapathya Vibodhaka) (15th Cent. A.D.)

In this Nighantu ‘Durva’ is described in “Aushadhi Varga” with following synonyms i.e Niladurva -Shadval, Harita,Saha, Anata, Bhargavi, Shasya, Sahasravirya, Sataparvica, Sitvalli ;Svetadurva - Golomi, Svetadandi, Svetakanda, Sita, Lata, Sahasravirya, Anata , Dushkara, Bhargavi, Ruha, Shatvirya; Gandadurva- Matsyakshaka, Matsyagandha, Valhi,Nadikalayak, Matsyadini, Gandali and Gartakalambuk. Regarding its properties it has been said as shitvirya, tikta, madhur and kashaya, Kapha, Raktapitta, Visarpa, Trisha, Dah, Charm rognashak .Ganda durva is Lauhadravini, Vatkarak, Kaphapitta, Trisha, Dah, Raktavikar, Kushtha, Jwara nashak.^[25]

Bhavaprakasha nighantu:(16th Cent. A.D.)

This book is written by Bhavamishra who is an important landmark in the history of Indian Medicine. He stands at the junction of the medieval and modern periods which is the turning point for its future course and also because of the fact that he revived, the style of Samhitas and contributed a good deal to various aspects of Ayurveda by adding new ideas and drugs. Durva has been mentioned in ‘Gudchyadivarga’. Nildurva- Hari dub, Nili dub, Ramghas; Sveta durva is not a different variety. Its leaves are white only due to place variation; Gandadurva- Matsyakshakshi, Gandali and Gandurva, Shakuladini Action of Nildurva- Decoction of root is used for the treatment of Bastishoth, Sotha, Mutrakriccha, Tvaka vikar (skin diseases). Fresh juice is used for Atisar(dysentery), Vaman(bilious vomiting), Garbhapat(Abortion), Apasmara (epilepsy), Ascitis(Jalodar), Atyartava (hypermetrogia), Unmad(Psychosis). Leaf paste is used to ameliorate burning in Arsh(Piles). Lepa of patra kalk is used in Netrabhishyand(Eye disease). Ganda durva is Shitavirya, Lauhadravini, Malsangrahaka, Laghu ,Tikta, having Kashaya and Madhur rasa .It is Vatkaraka,Daha,Trisha, kapha, Raktavikara, Kushtha and Pittajwar nashak.^[26]

Gunaratnamala: (16th Cent. A.D.)

In Gunaratnamala of Bhavamishra ‘Durva’ is described in “ Guduchyadi Varga” its synonyms Niladurva – Ruha, Anata, Bhargavi , Shaspa , Sahasravirya, Sataparvica, Satvalli; Sveta durva- Shukladurva, Golomi, Shatvirya; Gandadurva- Matsyakshakshi , Gandali, Gandurva, Shakuladini, Gandadubi, Gandardub Nildurva is Shita, Tikta, Kashaya, Madhura.

It is useful in Kapha vikar, Pitta-vikara, Rakta-vikara, Visarpa, Trishna, Daha and skin diseases Sveta durva is Kashaya Tikta, Madhura and Shita, beneficial for life, Jeevaniya, Visharpa, Trishna, Raktavikar, Pitta-vikara, Kapha-vikara and Daha-shamak. Used in Epistaxis, and supposed to be very (potent) Pittashamaka.- Ganda durva is Shita, Laghu, Tikta, Kashaya, Madhur and Katuvishaki. It is Vat-varadhaka, Grahi, Lauhadravini. It treats Daha, Trishna, Rata-vikara, Pittaja-jwara, Kapha-vikara, and Kushtha.^[27]

Rajanighantu: (Nighantu Raja, Abhidhana chudamani) (17th Cent. A.D.)

This book is written by Narhari Pandit, who has given first place to Dravyaguna in Astanga Ayurveda. This book is particularly based on the Dhanwantari nighantu. The subject matter has been divided into 23 chapters. Durva is included in “Shalmalyadi varga”. Synonyms of Durva mentioned in Raja nighantu Niladurva - Shambhavi, Shyama, Shanta, Amrita, Puta, Shatgranthi, Anushnavallika, Shiva, Shiveshta, Mangala, Subhaga, Bhuthanti, Shatmula, Mahaushdhi, Vijaya, Gauri, Sataparvica, Harita, Jaya; Sveta durva - Anata, Durmara, Bhargavi, Golomi, Sitakhya, Chanda, Bhadra, Gauri Vighneshan, Kanta, Sveta, Divya, Svetakanda, Prachanda, Sahasrakanda, Sahasrapatri, Sahasraparva, Survallabha, Shubha, Suparva, Sitachada, Swacha, Kachantruha, Abdhihasta, Sahasravirya; Gandadurva- Gandali, Ati-tivra, Matsyakshi, Varuni, Min netra, Shyam granthi, Granthila, Granthi parni, Suchipatra, Shyamkanda, Jalasya, Shakulakshi, Kalaya, Chitra Action-Kashaya and Madhur rasa, shital, pittajanya, Pyas, Arochak, Vaman nashak. Pacifies Dah, Murcha, Grahabadha, Bhutbadha; kills Kapha and Shram; brings tripti.^[28]

Adhunika kala

‘Durva’ is explained in text books of modern periods such as Dravya guna vigyan by Dr P.V Sharma, Priya nighantu, Saligrama nighantu, Ayurvedic materia medica, Wealth of India and other books written by recent Acharyas, which provide information about its habit, habitat, morphology, chemical composition etc.

Nighantu Adarsha: (20th Cent. A.D.)

This book was published in Gujarat, its author, is Vaidya Bapalalji who is the authoritative person of 20th century for identification of Ayurvedic plants. In this Nighantu description of ‘Durva’ is not mentioned.^[29]

Priya Nighantu: (20th Cent. A.D.)

In Priya nighantu of Acharya Priyavrata Sharma 'Durva' is described in "Shatpushpadi Varga" with synonyms Dub, *Cynodon dactylon*. It is used in stambhan and pitta shamak. It is useful in raktapitta, visarpa and skin ailments.^[30]

Puspayurveda: (20th Cent. A.D.)

In Pushpa-Ayurveda. therapeutic use of flower is mentioned in raktapitta.^[31]

DISCUSSION

Cynodon dactylon is traditionally used in India as a therapeutic agent to control diabetes mellitus. Our earlier reports on aqueous and ethanolic extracts of *Cynodon dactylon* also reveal its antidiabetic effect in severely diabetic models on 2 weeks treatment. Lowering of high lipid profile of diabetic rats with increase in cardioprotective lipid (HDL) was an additional observation of these reports. The present scientific investigation not only supports but validates too the traditional use of *Cynodon dactylon* as antidiabetic agent of high potential in diabetic models.^[32,33] The elevated level of SGOT, SGPT and ALP in severely diabetic experimental rats was observed after one week of STZ administration as an indication of STZ induced hepatic injury.^[34] The data suggested that the 14 days long administration of ethanolic extract of *Cynodon dactylon* improves the liver function by decreasing the raised levels of SGOT, SGPT and ALP of severely diabetic rats. Hence, the present study reconfirms our previous observations about antidiabetic effect by showing improvement in enzymatic assays affected due to hepatic injury caused by STZ induced diabetes. The serum creatinine level of severely treated diabetic rats was also found to decrease on treatment suggesting thereby an improvement in kidney function also in addition to liver function.^[35] Kosha and Nighantus we will reach to medicine very easily and take the benefit by the traditional medicines. The Nighantus generally were coined using a therapeutic text. Authors used the prevailing and popular texts of their time and region as basis to write Nighantus. This explains the emergence of more than one Nighantu during one period. Further, two different Nighantus are seen having groups with same name but have kept different substances under them. This has happened due to the different rationale used in grouping of the substances. This offers a tremendous scope for research in order to explore the therapeutic application of a substance in different regions and era, in the same manner Durva was also a popular drug at that time. It has tremendous effect on different diseases viz.

Atisar(dysentery), Vaman(bilious vomiting), Garbhapat(Abortion), Apasmara(epilepsy), Ascitis(Jalodar), Atyartava (hypermetrogia), Unmad(Psychosis).

CONCLUSION

Durva (*Cynodon dactylon* Linn. Pers.), is a plant with a rich Ethnobotanical history. The present review on Durva of different Nighantus can be useful to know about the different formulations of Durva in which different parts of this plant is used. By this way we can use Durva in the treatment of different diseases. Most of the Nighantus have mentioned Durva usefull in the treatment of Atisar(dysentery), Vaman(bilious vomiting), Garbhapat(Abortion), Apasmara(epilepsy), Ascitis(Jalodar), Atyartava(hypermetrogia), Unmad(Psychosis). In this regard, further studies need to carried out to explore Durva for its potential in preventing and treating diseases.

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