

Research Article

A Review on the plants named after their karma (action) in Raja nighantu

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Abstract:

What is there in the name? May be it is true philosophically, but, from Ayurvedic perspective especially from Nama rupa vijñana's point of view, a lot is hidden in the name. Plants are not named just because they need the name, on the contrary, they help in understanding various aspects of the plant. The rationale of naming a plant is well documented in Raja nighantu. Though, there is a confusion about its time, yet, most of Ayurveda scholars believe it to be a work of 15th century. The pharmacological action of a plant is taken as a basis under the heading prabhava (effect) in naming a plant. This way of naming a plant helps a lot to have a look at its mechanism of action. For the reason, it is a great clue towards the pharmacodynamics of that plant and basis of many other plants working on the same line. Keeping this fact in mind, an earnest attempt is made in this review to explore the plants that are attributed with the names on the basis of their action in Raja nighantu. This review reveals 170 plants named after 36 activities with 153 synonyms.

Keywords: Synonyms. Raja nighantu, Medhya, Kusthari, activity**Introduction**

Ayurveda is a science of life, containing vast number of regimens using various medicinal plants to prevent as well as cure the diseases. The detailed information on the plants is stored in the form of nighantus. The nighantus have followed a poly nomenclature system to identify the medicinal plants which includes a basonym and a bunch of synonyms. Coining different synonyms to a plant is a unique way of describing the different characteristic features of the plant in a short way. By and large, the meaning or the significance of many synonyms portray the key characters which include the habit, habitat, organoleptic characters, pharmacodynamics and therapeutic use. No doubt, remembering all the synonyms given to a plant is a very difficult task since the total number of synonyms given for a most important plant in all the available nighantus may go up to triple digits. But sometimes, these synonyms make wonders in understanding the key characters of the plant effectively. For instance, the synonym "Chakra lakshanika" given to the plant Guduchi (*Tinospora sinensis*(Lour.)Merr) clearly explains that the plant possess circular structure. This synonym is so much impressive that the circular structure found on the transverse section of its stem can be correlated and easily remembered as one of the important feature of its identification.

Interestingly enough, morphology and the action of a medicinal plant can be described completely after a careful selection of synonyms from all the available nighantus. For the reason, many nighantus have compiled the synonyms from the earlier nighantus. Therefore, there is a great chance of occurrence of duplication of the synonyms. If the carefully selected synonyms are grouped up and presented, a complete and vivid description of the plant will emerge. For example, the synonyms given to a plant Kutaja(*Holarrhena pubescens* Wall.ex.G.Don) viz Vrikshaka,, Kalinga,, Pandura druma, Mallikapushpa, Mahagandha, Pravrishneya, Yavaphala, Varatikta and Sangrahi^[1], if analysed and compiled, carry a meaning as to a small tree growing on the hilly areas of Kalinga (Odisha in India) with a pale bark, jasmine like fragrant flowers that bloom in rainy season and bear barley shaped fruit whose bark and seed tastes bitter and acts as anti -

diarrhoeal. Thus, the synonyms given to a plant, act as special tools, not only for identifying, but also to understand the organoleptic characters and pharmacological actions. The nomenclature system for plants in Ayurveda is well developed and established during the period of Raja nighantu by Narahari, written in 15 century AD. This nighantu is compiled after analysing each and every aspect of a medicinal plant like its morphology and therapeutic uses. Hence Narahari himself gives the name 'Raja nighantu' as he considers it as best among all nighantus^[2]. Acharya Narahari pandit has specified 7 basis for naming a plant viz rudhi (based on traditional use), prabhava (based on effect), deshyokti (based on habitat), lanchana (based on the signs and symbols) upama (based on the simile), veerya (based on the potency) and itarahva (miscellaneous)^[3]. Among these seven basis, prabhava simply refers to the pharmacological action of the plant. The name of plant which is based on the prabhava gives a ready reference to its indication in the therapeutics. Considering this fact as an easy approach in practicing medicine, an earnest attempt is made in this review to explore the plants named on the basis of their action.

Aims and Objectives:

To study the synonyms given to the plants based on the actions in Raja nighantu

To summarize the botanical source accordingly

To study and summarize the pharmacological activities hidden in the synonyms.

Materials and Methods:**Materials:****Mainly focussed on:**

Raja nighantu available in print form being authored by Dr. Indradev Tripathi published by Chowhambha Krishnadas Academy Varanasi, Fifth edition 2010.

Additional Literature focussed on:

Books Dravyaguna which include Nama Rupa Jnanam, Some controversial drugs in Indian medicine, Introduction to Nighantu of Ayurveda, Dravyaguna vijñana,

Web sites browsed:

www.theplantlist.com, www.frlht.org

Methods:

The synonyms of plants based on the karma (action) are collected and sorted out.

The plants along with their synonyms (based on karma) are tabulated

The true botanical source is identified and the accepted botanical name is collected from the reliable source and presented

The botanical source which received more than one synonym is categorized in different group of activities accordingly

The synonym which is repeated, is counted only once.

Plants whose botanical identity is not established, are stated as it is.

Table-1: Plants named after their action in Guduchyadi varga

S.No	Drug	Synonyms	Verse no
01	Guduchi	Jvarari, Rasayani, Vayastha, Jeevantika	13
02	Patola	Kusthari, Kasa mardana, Kusthaghni	22
03	Jeemutaka	Vishaha, Vishaghni	58
04	Indraravuni	Vishapaha, Vishaghni, Amruta	71
05	Jyotishmati	Medhya, Matida, Sarasvati, Amruta	82
06	Tejovati	Brahmi, Medhya, Medhavini	85
07	Ahswakshura	Visha hantri	88
08	Shankha pushpin	Medhya	131
09	Putradatri	Vatari	142

Table-2: Plants named after their action in Shatahvadi varga

S.no	Drug	Synonyms	Verse no
01	Shaliparni	Vataghni, Shophaghni, Saumya	18
02	Kshudra gokshura	Palankasha	41
03	Shitavari	Medhakrit	51
04	Bakuchi	Kusthahantri, Kantida Kustadoshapah	63-64
05	Mahabala	Keshavardhini,	98
06	Shana	Vamana	75
07	Ashwagandha	Vataghni, Balada, Pusthida, Balya	110-111
08	Hapusha	Pleeha shatru, Vishaghna, Kaphaghni	114
09	Kalihari	Garbhapatani, Vranahrut	128-129
10	Kakamachi	Kustanashini, Rasayani	133-134
11	Bhringaraja	Kesha ranjana, Keshya, Kuntala vardhana	138
12	Brihacchanchu	Vishari	146
13	Shephali	Vatari, Suvaha	155
14	Putrada	Putrada, Garbhadatri,	159

		Prajada, Srusthiprada	
15	Shigrudi	Matida, angutvaharini, Vataghni,	164
16	Bhumyahulya	Kustha ketu	170
17	Kasamarda	Kasari, Kasamardaka, Jarana, Deepaka	171
18	Adityapatra	Kusthari	173
19	Ajagandha	Brahmi	177
20	Kalanjani	Rechani	186
21	Karpasi	Sarini	188
22	Chakramarda	Dadrughna, harjughna, Prapunnata	199

Table -3: Plants named after their action in Parpatadi varga

S.No	Drug	Synonyms	Verse no
01	Parpata	Pittari	89
02	Jeevaka	Balada, Deerghayu, Jeevada, Ayushyaman, Pranada	11-12
03	Maha shravani	Palankasha	19
04	Riddhi	Pranada, Jeevadatri	28
05	Vridhhi	Pustida Tusthi, Jeevabhadr a	29
06	Dhumra patra	Krimighna, Strimalapah	34
07	Prasarani	Balya, Sarini, Sara	37
08	Kumari	Vranaghni	48
09	Trayamana	Bhaya nashini	58
10	Brahmi	Medhya, Saraswati, Saumya	65
11	Kulatha	Druk, prasada, hakshushya, Lochanahita	71
12	Jambu	Madaghni	84
13	Nagadanti	Vishodhini	86
14	Bhumyamalaki	Vrishya, Vishaghna	92
15	Dugdhapeni	Lutari, Vranaketu	98
16	Hamsapadi	Suvaha	110
17	Rakta Punarnava	Shophaghni, Vishaghni, Sarini	118
18	Matsyakshi	Brahmi	127
19	Gorakshadugdhi	Rasayani	142

Table 4: Plants named after their action in Pippalyadi varga

S.No	Drug	Synonyms	Verse no
01	Shunti	Kaphari	25
02	Maricha	Kapha virodhi	31
03	Yavani	Vatari, Shula hantri, Deepaniya	39
04	Vidanga	Jantuhantri, Vatari tandula, Jantughni, Krimiha	48-49
05	Vacha	Rakshoghna	51
06	Shweta vacha	Medhya	53
07	Jeeraka	Jarana, Deepaka, Jeerna	56
08	Brihat pali	Vranaha	65
09	Krishna jeeraka	Jarana, bhedani, danta shodhini, Ruchya	60-61
10	Prithvika	Jarani, jeerna	63
11	Methika	Deepani	68
12	Hingu	Jantu nashana, Jarana, bhedana, Shulaghni, Gulmadighna Rakshoghna	72-73
13	Brihat Ela	Kayastha, Garbha sambhava	84
14	Bola	Raktapaha, Vranari	114-115
15	Pata	Deepani	120
16	Amlavetasa	Gulma ketu,	126-127

S.No	Drug	Synonyms	Verse no
17	Yastimadhu	Bhedani, Bhedi	147
19	Bharangi	Shoshapaha	150
20	Pushkaramula	Vatari, Kasajit	153
21	Danti	Shwasari	158-159
22	Danti beeja	Rochani, Vishodhini	163-164
23	Twak	Rechaka Saraka, Maladravi, Beejarechani, Shodhini	170
24	Vamsha rochana	Mukha shodhana	183
25	Manjistha	Rochana, Rochanika	192
26	Haridra	Jwarahantri	197-198
27	Kramuka	Vishaghi, Varnini, varnada	210
28	Nirvisha	Akshibheshaja	218
29	Ahiphena bheda	Vishahantri, Vishada	235, 237
30	Himavali	Jarana, Dharana, Sarana	245

Table 5: Plants named after their action in Moolakadi varga

S.No	Drug	Synonyms	Verse no
01	Neela shigru	Chakshushya, Ruchi ranjana	28
02	Shweta shigru	Rochana	30
03	Rasona	Bhutaghna, Sheetamardaka	49
04	Palandu	Krimighna, Deepana, Rochana	55-56
05	Raja palandu	Rochaka	58
06	Soorana	Durnamari, Vatari, Arshoghna	62-63
07	Hastikanda	Twagdoshari, Kusthahanta	81
08	Varahikanda	Kusthanashana, Amruta	86
09	Maha sugandha	Suvaha, Vishamardanika, Vishamardini	95
10	Shalmali kanda	Malaghna, Malahanta	106
11	Musali	Suvaha	115
12	Nagahvakanda	Putrada	119
13	Shweta chilli	Jwaraghi	128
14	Upodika	Madashaka	136
15	Karkati	Mootrala	202
16	Chirbhita	Rochana phala	215

Table 6: Plants named after their action in Shalmalyadi varga

S.No	Drug	Synonyms	Verse no
01	Paribhadra	Krimighna	19
02	Khadira	Danta hvana, Kusthari, Medhya	21-22
03	Rakta Khadira	Kustha todana	26
04	Shami	Kesha mathani, Medhya, Keshahantri	33-34
05	Babbula	Kaphantaka	37
06	Snuhi	Vatari	49-50
07	Shewta Eranda	Vatari	55
08	Ingudi	Anilantaka, Shulari	44
09	Snuhi	Vatari	50
10	Madanaphal	Chardana, Madana	67
11	Kasha	Lekhana	87
12	Neela durva	Bhutahantri, Amrita	107
13	Bhustrina	Pumsatva vighraha	121

Table 7: Plants named after their action in Prabhadradi varga

S. No	Drug	Synonyms	Verse no
01	Nimba	Chardana	9
02	Nepala nimba	Nidrari	17
03	Shyonaka	Vatari, Virechana	29
04	Ajashringi	Chakshushya	32
05	Aragvadha	Rochana, Kandughna, Jvarantaka, Kustasoodana	44-45
06	Vrischikali	Vishaghi, Netrarogaha	48
07	Kutaja	Sangrahi	53
08	Shirisha	Vishahanta	57
09	Karanja	Rochana	61
10	Ghrita karanja	Vishari	63
11	Mahakaranja	Vishaghi	65
12	Ankola	Madana, Rochana	73-74
13	Neela vriksha	Vatari, Shophanashaka	76-77
15	Sarja	Karshya	78
16	Hintala	Garbha sravi	88
17	Madavriksha	Mohakari	91
18	Bhumi kadamba	Vishaghi, Vranaharaka	101
19	Bhurja	Bhutaghi	112
20	Varuna	Marutapaha	136
21	Putrajeeva	Garbhada, Sutajeevaka	138
22	Lakucha	Karshya	151

Table 8: Plants named after their action in Karaveeradi varga

S. No	Drug	Synonyms	Verse no
01	Dhattura	Madana, Kharjuraghna	17, 18
02	Arka	Kharjughna	26
03	Palasha	Vatapotha	36
04	Tilaka	Rechaka	42
05	Shweta ketaki	Medhya	67
06	Bhramarari	Kusthari	123
07	Tulasi	Kayastha, Bhutaghi	148, 149
08	Krishnarjaka	Garaghna	157
09	Vana tulasi	Vishaghi	160
10	Varvara	Garaghna	167

Table 9: Plants named after their action in Amradi varga

S. No	Drug	Synonyms	Verse no
01	Bhallataka	Krimighna, Vatari	66-67
02	Dadima	Rochana	73
03	Peelu	Virechana phala	83
04	Bhavya	Vaktrashodhana	96
05	Kakali draksha	Ruchikarini	105
06	Kakodambarika	Kusthaghi, Shwitrabheshaja	132-133
07	Beejapura	Jantughna, Ruchaka, Rochana phala, Jantughna	147
08	Amalaki	Amruta, Vrishya, Rochani, Vayastha	158
09	Nimbuka	Shodhana, Jantumari, Rochana	173
10	Jambeera	Rochanaka, Mukha shodhi, Jantujit	175
11	Mushkaka	Vishapaha	205
12	Haritaki	Pranada, Kayastha	215
13	Bibhitaki	Kasaghna	231

Table 10: Plants named after their action in Chandandi varga

S. No	Drug	Synonyms	Verse no
01	Barbara chandana	Pittari	23
02	Devadaru	Bhutahari	28
03	Cheeda	Bhutamari, Grahabheetijit	33
04	Kankola	Vakra jadyahara	79

05	Lavanga	Ruchira	81
06	Kastagaru	Varna prasadana	88
07	Guggulu	Bhutahara,Palankasha,	103,106
08	Mamsarohini anya prakara	Rasayani	146

Table 11: Plants named after their action in Suvarnadi varga

S. No	Drug	Synonyms	Verse no
01	Krishnagaru	Chakshushya	87
02	Rasanjana	Bala bhaishajya	93
03	Kampillaka	Rechani,Rechaka	99

Table 12: Plants named after their action in Paniyadi varga

S. No	Drug	Synonyms	Verse no
01	Ikshu	Vrishya	82

Table 13: Plants named after action in Shalyadi varga

S. No	Drug	Synonyms	Verse no
01	Shali	Ruchya	05
02	Yava	Medhya	69
03	Nishpava	Palankasha	107
04	Teekshnaka	Rakshoghna, Kusthanashana	123

Discussion:

Plants are the main source of drugs in Ayurveda. The synonyms accredited to them, not only help in identifying the plant but also illustrate its various morphological and pharmacological aspects. That's why, the synonyms have gained much importance in Ayurvedic literature especially in the lexicons. The names of the plants are updated from time to time. Hence, the number of the synonyms of a plant varies in different lexicons written during different times. Raja nighantu is one of the medieval lexicons, known for including huge number of synonyms. Among them, some of the synonyms imply the pharmacological actions. Interestingly, on analysing the data 170 plants falling under different classes, are named after their actions.

Plants named after their jwarahara (antipyretic) action:

A total of 4 plants viz Shweta chilli (*Chenopodium murale* L), Guduchi (*Tinospora sinensis* (Lour.)Merr), Manjistha (*Rubia cordifolia* L) and Aragwadha (*Cassia fistula* L) are considered as jwarahara by different synonyms such as Jwaraghni, Jwarari,Jwarahantri and Jwarantaka respectively.

Plants named after their rochana (appetizer) action:

A total of 16 plants viz Shweta shigru(*Moringa oleifera* Lam)Neela shigru(*Moringa borziana* Mattei), Palandu(*Allium cepa* L), Raja palandu(*Allium ascalonicum* L),Jambira(*Citrus aurantiifolia*(christm.)Swingle, Nimbuka (*Citrus limon* (L.)Osbeck),Beejapura(*Citrus medica* L) Shali(*Oryza sativa* L), Vamsha rochana procured from Vamsha(*Bamusa bambos*(L.)Voss, Ankola(*Alangium salvifolium*(L.f)Wangerin),Krishna jeeraka(*Carum carvi* L) Chirbita(*Momordica dioica* Roxb.ex Willd),Dadima(*Punica granatum* L)Amalaki(*Phyllanthus emblica* L)Lavanga (*Syzygium aromaticum* (L.)Merr.&L.M) and Kakali draksha(*Vitis vinifera* L)are named with one or the other names such as Rochana, Ruchaka, Rochanaka, Ruchya, Rochanaphala,Ruchira and Ruchikarini to refer their rochana karma.

Plants named after their deepana (digestant) action:

Kasamarda(*Senna occidentalis*(L.)) ,Patha(*Cissampelos pareira* L.),Prithvika(*Nigella sativa* L) Krishna jeeraka (*Carum carvi* L), Jeeraka (*Cuminum cyminum* L),Ahiphena bheda(Identity not established),Palandu(*Allium cepa* L) and Yavani(*Trachyspermum ammi*(L)Sprague) are credited with one or the other names such as Jarana, Deepaka, Jeerna, Deepaniya, Deepana and Deepani to highlight their deepana action.

Plants named after their Twachya (beneficial effect on skin) Karma:

A total of 18 plants are appreciated for their utility in skin diseases viz Patola(*Trichosanthes dioica* Roxb),Hastikanda (*Leea macrophylla* Roxb.ex Homm) , Varahikanda (*Dioscorea bulbifera* L.), Kakodambarika (*Ficus hispida* L.f), Teekshnaka (*Sinapsis alba* L),Patola(*Trichosanthes dioica* Roxb) Himavali (Identity not established),Bhramarari (*Alectra parasitica* subsp.*chitrakutensis* (M.A.Rau) K.K.Khanna & An .Kumar),Khadira(*Acacia catechu* L), Arka(*Calotropis procera* (Aiton) Dryand), Rakta khadira(Identity not established), Aragwadha (*Cassia fistula* L), Bakuchi(*Cullen corylifolium* (L.)Medik.) Kakamachi (*Solanum nigrum* L.) Bhumyahulya (*Cassia auriculata* L) Chakramarda (*Senna tora* (L) Roxb) Dattura(*Datura metel* L) and Harirda (*Curcuma longa* L). Most of them are named as Kusthari or Kusthaghni. Some plants are named by the synonyms viz Kustha todana, Kusthadoshapaha,Kharjughna,Kharjuraghna and Kustha nashini. The term kustha is commonly used to denote the skin disease in Ayurveda. Hence, the plants with all these synonyms are quite useful in the skin diseases.

Plants named after their jantughna (anti-parasitic) activity:

A total of 8 plants viz Beeja puraka (*Citrus medica* L), Cheeda(*Pinus roxburghii* Sarg),Rasona(*Allium sativum* L) Nimbuka(*Citrus limon* L), Jambeera (*Citrus aurantiifolia* (christm) Swingle) Tulasi(*Ocimum tenuiflorum* L) Devadaru(*Cedrus deodara*(Roxb ex D.Don)G.Don) and Vidanga(*Embelia ribes* Burm. F.) are considered as remedy for different parasites. These plants are named as Jantughna, Bhutamari, Jantumari, Jantujit, Bhutaghni, Bhutahari and Jantuhantri respectively.

Plants named after their Vishaghna (anti-poisonous) activity:

a total of 17 plants are considered beneficial to combat the poisonous effect of different sort. It is not clear that which plant is effective against which poison except Dugdhapeni. (*Taraxacum campylodes* G.E.Haglund). The plants viz Mushkaka (*Schrebera swietenoides* Roxb), Haridra(*Curcuma longa* L), Nirvisha(*Delphinium denudatum* Wall. Ex Hook.f & Thomson) Vrischikali (*Pergularia daemia* (Forssk) Chiov),Ghrita karanja(*Pongamia pinnata*(L.)Pierre), Maha karanja (*Holoptelia integrifolia* Planch),Bhumi Kadamba (*Mitragyna rotundifolia*(Roxb.) Kuntze) Jeemutaka (*Luffa echinita* Roxb),Indravaruni(*Citrullus colocynthis* (L.)Schard), Ashwakshura(*Clitoria ternatea* L.),Bhumyamalaki(*Phyllanthus niruri* L.), Rakta punarava (*Boerhavia diffusa* L.), Hapusha (*Juniperus communis* L)Maha sugandha (Rawolfia species)Shirisha(*Albizia lebbek*(L.)Benth) and Brihat chanchu (*Chorchorus fascicularis* Lam). The synonyms viz Vishaghni, Vishaha,Vishapaha, Vishahantri, Vishaghna, Vishamardanika ,Vishahanta and Vishari are used to refer the anti -poisonous

activity. In addition, a plant by name Dugdhapeni (*Taraxacum campylodes* G.E.Haglund) is considered as antidote for spider venom by naming it as Lutari .

Plants named after their Shoshahara (anabolic) activity:

A total of 7 plants possess the properties that can enhance the strength, tone and cure wasting of muscles. The plants viz Yasthimadhu (*Glycyrrhiza glabra* L), Riddhi(*Platanthera edgeworthii*(Hook.f.ex collett) R.K.Gupta, Vriddhi(*Habenaria intermedia* D.Don), Jeevaka (*Crepidium acuminatum*(D.Don Szlach.)Prasarani(*Merremia tridentata*(L) Hallier.f.) Ashwagandha(*Withania somnifera* (L.)Dunal) and Dharana(a variety of *Ahiphena*) The synonyms such as Shoshapaha, Pustida, Jeeva datri, Tusthi, Jeevabhadra, Dharana, Balada and Balya are used to refer the anabolic activity.

Plants named after their efficacy in oral care:

A total of 5 plants viz Bhavya (*Dillenia indica* L.),Kankola(*Piper cubeba* L.f)Krishna jeeraka(*Carum carvi* L.),Twak (*Cinnamomum verum* J.Presl) and Jambira(*Citrus aurantiifolia*(christrn.)Swingle are accredited with the synonyms that prove their efficacy in oral care. They are named as Vaktra shodhana, Vaktra jadyahara, Danta shodhini,Mukha shodhana and Mukha shodhi respectively.

Plants named after their medhya (intellect promoting) activity: A total of 13 plants viz Yava(*Hordeum vulgare* L.),Shitivara(*Celosia argenticola* L),Ajagandha(*Thymus serpyllum* L) Ketaki (*Pandanus odorifer*(Forssk),Brahmi (*Bacopa monnieri* Kuntze), Shami(*Prosopis cineraria* (L.) Druce), Jyotishmati (*Celastrus paniculatus* Willd) Tejovati(*Zanthoxylum armatum* DC), Shankhapushpi (*Convolvulus pluricaulis* Forsk) Brahmi((L.)Wettst),Shweta vacha(*Iris germanica* L), Khadira(*Acacia catechu* (L.f)Willd),Matsyakshi (*Alternanthera sessilis*(L)R.Br ex Dc) and Shigrudi(not identified).The synonyms such as Medhya, Brahmi,Medhakrit,Matida Medhavini and Saraswati are used to depict the intellect promoting activity.

Plants named after their efficacy in ophthalmic care: A total of 6 plants viz Neela shigru(*Moringa borziana* Mattei), Kramuka(*Symplocos paniculata*(Thunb)Miq, Krishnagaru (*Aquilaria agallocha* Roxb),Vrischikali (*Pergularia daemia*(Forssk.)Chiov.) Ajashringi(*Gymnema sylvestre* (Ritz.)R.Br.ex Sm.) and Kulatha (*Vigna unguiculata*(L.)Walp).The synonyms such as Chakshushya, Akshi bhaishajya,Netra rogapaha, Lochanhit, and Drikprasada are used to denote their usefulness in ophthalmic care.

Plants named after their efficacy in psychiatric use: A total of 4 plants viz Cheeda(*Pinus roxburghii* Sarg),Bhurja (*Betula utilis* D.Don) Neela durva(*Cynodon dactylon*(L.)Pers) and Trayaman(*Gentiana kurroo* Royle) are named as Bhutamari, Grahabhutajit, Bhutaghni,Bhuta hantri and Bhayanashini respectively to highlight their usefulness in psychiatric diseases.

Plants named after shopha nashaka (anti-inflammatory) activity: A total 3 plants viz Shalaparni (*Desmodium gangeticum* (L.)DC), Neela vriksha (Indigofera species)) and Rakta punarnava (*Boerhavia diffusa* L.).The synonyms such as Shophaghni and Shophanashaka are credited to these plants to illustrate the anti-inflammatory activity.

Plant named after its efficacy in paediatric use:

Rasanjana (extract) obtained from Daruharidra (*Berberis aristata* DC) is called as Bala baishajya considering its effectiveness in curing the paediatric diseases.

Plant named after its anti- diarrhoeal activity:

The synonym Sangrahi is coined to Kutaja (*Holarrhena pubescens* Wall.ex.G.Don) to refer its anti -diarrhoeal activity.

Plant named after its diuretic activity:

The synonym Mootrala is given to Karkoti whose botanical source is *Momordica dioica* Roxb ex Willd.

Plants named after their efficacy in hair care:

The plants Mahabala (*Sida rhombifolia* L) and Bhringaraja (*Eclipta prostrata* (L.)L. are ascribed with the synonyms that prove their usefulness in hair care. The synonyms such as Kesha vardhini, Kesha ranjani, Keshya and Kuntala vardhana are used to hint at the colouring and hair promoting activity.

Plants named after their emetic activity:

A total of 5 plants viz Madanaphal(*Catungaregam spinosa*(Thunb)Tirveng),Ankola(*Alangium salviifolium* (L.f) Wangerin),Nimba(*Azadirachta indica* A.Juss) Dhatura(*Datura metel* L.) and Shana(*Crotalaria juncea* L) are accredited with the synonyms that portray their emetic activity. The synonyms such as Chardana, Vamana and Madana attributed, imply the fact that they are the emetics.

Plants named after their vata shamaka activity:

A total of 17 plants viz Soorana (*Amorphophallus paeoniifolius* (Dennst.)Nicolson), Bhallataka (*Semecarpus ana cardium* L.f), Shalaparni (*Desmodium gangeticum* (L.)DC), Shephali (*Nyctanthes arbor-tristis* L.), Shigrudi (Identity not established), Putradatri (Identity not established), Yavani (*Trachyspermum ammi* (L.) Sprague), Bharangi(*Rothea serrata* (L.) Steane &Mabb), Snuhi(*Euphorbia neriifolia* L.),Eranda (*Ricinus communis* L.),Shyonaka(*Oroxylum indicum* (L.)Kurz),Neela vriksha (Indigofera species),Ashwagandha (*Withania somnifera* (L.)Dunal) Varuna(*Crateva nurvala* Buch-Ham),Ingudi (*Balanites aegyptiaca* (L.) Dilile), Palasha (*Butea monosperma* (Lam)Taub) and Vidanga (*Embelia ribes* Burm f) are attributed with the synonyms that portray their vata shamaka activity. These plants are called either with the synonym Vatari, or Vataghni or Marutapaha or Anilantaka or Vatapotha or Vatari tandula

Plants named after their Pitta shamaka activity:

Two plants viz Barbara chandana(identity not established) and Parpataka (*Fumaria parviflora* Lam) are named as Pittari to portray their pittahara activity

Plants named after Kapha shamaka activity:

Babbula (*Acacia nilotica* (L) Delile) is called as Kaphantaka referring to its kaphahara activity. Shunti (*Zingiber officinale* Roscoe) is named as Kaphari, Maricha is named as Kapha virodhi and Hapusha(*Juniperus communis* L) is named as Kaphaghni. All these synonyms explain their kaphahara activity.

Plants named after their kasahara (anti-cough) activity:

A total of 4 plants viz Bibhitaki (*Terminalia bellirica* (Gaertn)Roxb),Kasamarda(*Senna occidentalis*(L.)Link), Patola (*Trichosanthes dioica* Roxb) and Bharangi (*Rothea serrata* (L.) Steane&Mabb) are named on the basis of their kasahara action as Kasaghna, Kasari,Kasamardana and Kasajit respectively. Kasamarda(*Senna occidentalis*(L.)Link) has attributed with one more synonym to prove its efficacy in Kasa as Kasamardaka.

Plants named after their vranahara(wound healing)activity:

A total of 6 plants viz Kasthagaru(*Aquilaria agallocha* Roxb), Kalihari(*Gloriosa superba* L),Bhumi kadamb (*Mitragyna parvifolia*(Roxb)Korth), Kumari(*Aloe vera* (L)Burm. f),Brihatpali(*Centratherum anthelminticum*(L.)Kuntze and Dugdhapeni(*Taraxacum campyloides* G.E.Haglund.) are named as Vrana prasadana, Vranahrit, Vranaharaka, Vranaghni,Vranaha and Vranaketu respectively to refer the wound healing activity.

Plants named after krimighna (anthelmintic) activity:

A total of 5 plants viz Bhallataka (*Semecarpus anacardium* L.f), Paribhadra(*Erythrina variegata* L),Dhumra patra (*Nicotiana tabacum* L),Palandu(*Allium cepa* L) and Vidanga(*Embelia ribes* (Lam)Taub) are named on the basis of Krimighna activity.Among them, all of them except vidanga (*Embelia ribes* (Lam)Taub) are called as krimighna. While, Vidanga (*Embelia ribes* (Lam)Taub) is called as Krimiha.

Plants named after their medohara (Hypolipidaemic) activity:

A total of 7 plants viz Kasha (*Saccharum spontaneum* L), Sarja(*Veteria indica* L) Lakucha(*Artocarpus lacucha* Buch-Ham),Mahashravani(*Sphaeranthus africans* L),Guggulu(*Commiphora mukul* (Hook.ex Stocks)Engl), Nishpava(*Lablab purpureus* L) and Kshudra Gokshura (*Tribulus terrestris* L)are attributed with the synonym that represent medohara activity. Among them, Kasha is called as lekhana, while, Sarja (*Saccharum spontaneum* L), and Lakucha (*Artocarpus lacucha* Buch-Ham) are called as Karshya. The remaining 4 plants are called as Palankasha.

Plants named after their rechana (Laxative/purgative) activity: A total of 14 plants viz Shephali (*Nyctanthes arbor-tristis* L.),Danti(*Baliospermum solanifolium* (Burm.) Suresh), Dantibeeja(*Croton tiglium* L),Kampillaka (*Mallotus philippensis* (Lam.)Mull.Arg), Kalanjani(*Ipomoea nil* (L.)Roth),Karpasi(*Gossypium herbacium* L) Tilaka (*Wendlandia heynei*(Schult) Santapau& Merchant),Nagadanti(*Artemisia alba* Turra), Hamsapadi (*Adiantum lunulatum* Burm.f.) Mahasugandha(*Rauwolfia* species) Musali(*Asparagus adscendens* Roxb) Shalmali kanda(tuber of *Bombax ceiba* L)Peelu(*Salvadora persica* L) and Sarana(Ahiphena bheda-Identity not established) are attributed with the one or the other synonyms that exhibit their laxative/purgative action. The synonyms such as Rechani, Suvaha, Sarini, Vishodini. Saraka, Maladravi, Rechaka ,Beejarechani,,Malaghna, Malahanta, Virechanaphala and Shodhini are coined for this purpose.

Plants named after their shulahara (anti-spasmodic) activity: A total of 4 plants viz Yavani(*Trachyspermum ammi*(L.)Sprague),Amlavetasa(*Garcinia pedunculata* Roxb.ex Buch-Ham),Krishan jeeraka(*Carum carvi* L)and Ingudi(*Balanites aegyptiaca* (L.)Delile) are named with one or the other synonyms such as Shulahantri, Gulma ketu,Bhedi, Bhedani and Shulari to denote their shulahara action.

Plants named after their beneficial effect on fertility:

A total of 4 plants viz Putranjeeva (*Putranjiva roxburghii*Wall),Brihadela(*Amomum subulatum* Roxb) Nagahvakanda(Identity not established) and Amalaki(*Phyllanthus emblica* L) are named on the basis of their beneficial effect on fertility and conception. The synonyms like Garbhada, Garbhadhatri,Garbha sambhava, Srusthiprada, Prajada Vrishya, and Putrada are used for this

purpose.

Plants named after their CNS stimulant activity:

A total of 2 plants viz.Jambu (*Allium stracheyi* Baker) and Nepala nimba (*Schweinfurthia sphaerocarpa* A.Braun) are named as Madaghni and Nidrari respectively to portray their stimulant activity.

Plants named after their rasayana (Rejuvenative) karma:

A total 14 plants viz Guduchi(*Tinospora cordifolia*) Kakamachi (*Solanum nigrum* L),Indravaruini(*Citrullus colocynthis* (L.)Schrad) Jyotishmati(*Celastrus paniculatus* Willd), Jeevaka(*Crepidium acuminatum* (D.Don)Szlach), Gorakshadugdhi(*Euphorbia thymifolia* L),Brihadela(*Amomum subulatum* Roxb),Varahi kanda(*Dioscorea bulbifera* L) Neela durva(*Cynodon dactylon* (L.) Pers) Tulasi(*Ocimum tenuiflorum* L), Amalaki(*Phyllanthus emblica* L), Haritaki(*Terminalia chebula* Retz) Mamsarohini anya prakara(Identity not established)and Bhrami(*Bacopa monnieri*(L.)Wettst) are named based on the rejuvenating action. The synonyms such as Vayastha, Jivantika, Rasayani, Amruta,Ayushyaman ,Pranada, Kayastha and Saumya are used.

Plant named after its beneficial effect in Arsha (Haemorrhoid):

A plant named as Shoorana (*Amorphophallus paeoniifolius* (Dennst.)Nicolson) is called by Arshoghna and Durnamari owing to its positive effect in haemorrhoid.

Plants named after miscellaneous actions:

Two Plants Kalihari (*Gloriosa superba* L) and Hintala (*Cycas circinalis* L.) are named as Garbhapatini and Garbha sravi respectively to explain their abortifacient effect. Shami(*Prosopis cineraria* L) is named as Kesha hantri and Kesha mathani based on its hair removal (depilatory) action. Bhustrina (*Cymbopogon maritini* (Roxb).Wats and Chakramarda(*Senna tora* L) are named as Pumsatva vighraha and Prapunnata owing to their anti -androgenic action and a plant Mada vriksha (Identity not established)) is called as Mohakari due to its hypnotic action. Similarly, Upodika(*Basella alba* L) is named as Mada shaka to prove its sedative action. Vacha(*Acorus calamus* L) and Teekshnaka(*Sinapsis alba* L)are named as Rakshoghna to depict their disinfectant action. Rasona (*Allium sativum* L.) is called by the name Sheetamardaka to signify its action that pacifies coldness and promotes warmth

Conclusion:

The author of Raja nighantu has mentioned a total of 300 synonyms of 170 plants based on the karma (actions).Of which 147 synonyms are repeatedly mentioned. This proves that 153 synonyms represent 36 pharmacological activities related to human body. Synonyms of the different plants that carry the same meaning and hint at the same effect, sometimes, differ in their mode of action depending upon their rasa panchaka. This fact helps the researchers in understanding the different mode of actions and developing different formulations of drugs. Meanwhile, this review directs the researchers to contemplate on the plants whose botanical identity is not established so far.

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Conflict of Interest

None

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