

Concept of Abhava Pratinidhi Dravyas, a Rational Substitution of Drugs- a Review

Charusheela M. Giri

Department of Dravyaguna Vidnyan, D.Y. Patil College of Ayurved & Research Institute, Nerul, Navi Mumbai, Maharashtra, India

Correspondence should be addressed to Charusheela M. Giri, charuayur@yahoo.com

Publication Date: 19 December 2013

Article Link: <http://medical.cloud-journals.com/index.php/IJAAYUSH/article/view/Med-116>



Copyright © 2013 Charusheela M. Giri. This is an open access article distributed under the **Creative Commons Attribution License**, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Abstract Pratinidhi Dravyas are substitute drugs utilize for the drugs which are not available. It mainly deals with rational substitution intentionally selected of crude drugs required for medicinal purpose. This concept is referred from one of the Laghutrayi, Bhavapraksh written in 16th century A.D. As the list of substitute is first of its kind and this Nighantu is considered as latest among classical work in Dravyaguna Shastra. Substitution is based on Ayurveda principles, that both the drugs Abhava Pratinidhi should possess similar Guna i.e. Rasapanchak and proven on basis of pharmacotherapeutically activity. Pratinidhi drugs serves to overcome the problem of un-available drugs due to scarcity, rare or difficult to procure. This in a way helps to produce good quality herbal products and lend a support in conservation and sustainability of medicinal plants. With proper revalidation of existing documented examples there is always a scope to find out new substitutes for Abhava Dravyas of today's time.

Keywords *Abhava Pratinidhi; Rational Substitution; Availability of Medicinal Plants*

1. Introduction

Pratinidhi is a unique concept about usage of substitute drug in the absence of an original drug (Abhava Dravya) [1, 5]. Pratinidhi means representation, substitute or vicegerent [2]. This concept has been mentioned by Bhavmishra (16th Century A.D.). It is evident that inclusion of number of medicinal plants in Ayurveda classics from Vedic period to Nighantu period has been increased. Unfortunately, the trend of documenting medicinal plants in Nighantu (lexicons) style is lost. Pratinidhi concept too was ignored. Charak has emphasized regarding the qualities of Ideal drug (Prashasta Bhesaja) for medicinal purpose should possess following aspects i.e. Bahuta (readily available & in abundance), Yogyatva (Eligible for Therapeutic uses), Anekvidha Kalpana (capacity to be formulated in varied type) and Sampat (Potential) [5, 6, 7]. Today over three quarters of world population relies on herbal plants and products for health care, as they symbolize safety in contrast to synthetics. In India nearly 9,500 registered herbal industries and a multitude cottage level herbal unit depends upon continuous supply of medicinal plants for manufacturing herbal medical formulation. In fact, the major wild

resource of medicinal plant required for herbal Industry is facing shortage due to non-availability of genuine plants due various problems like over-exploitation, deforestation, loss of habitat, extinction of rare plants, indiscriminate harvesting impairing the availability of raw drugs. The demand of medicinal plant is ever increasing but fails to meet supply with authentic drug giving rise to adulteration and irrational substitution affecting efficacy and safety of herbal medicines. Non-availability was very well sensed after the Samhita period and from medieval period evolved the concept of Pratinidhi Dravya. Ashtang Hridaya while describing 33 groups of plants, with similar Pharmacotherapeutic activity proposed that, if any drug in a group if not available can be substituted with newer drug and the inappropriate drug to the group should be rejected [3]. On observing the difficulties on procuring the original drug arised the concept of Pratinidhi, with a proper and precise list of substitute drugs probably for the first time in Bhavprakash. In present study the substitute drugs from Bhavapraksh are reviewed as it is considered as Bridge between medieval & modern period. Now a day's too much emphasis has been put on the potential for discovering new wonder drugs and too little on the problems involved in the use of traditional medicines. The concept of substitution in Pharmacognosy or herbal science mainly refers it as a part of adulteration which may be deliberate or accidental. Usually this practice includes substitution of original crude drug partially or fully with other substances which is either from or inferior in chemical properties and therapeutics [9]. Unlike above, in Ayurveda the concept of substitution differs in a way that the substitute drug possesses similar 'guna' i.e. the Rasapanchakas (Ayurveda Pharmacology) on the level of attributes with that of the original drug [1]. That means the substitutes seemed to be intentionally selected and utilize rationally to achieve the desired effect. Usage of Pratinidhi is alternate to rare/extinct/difficult to unobtainable original drug. It can overcome the depletion of rare drugs, thus lend a support in conservation and sustainability of medicinal plants and provide a quality herbal formulation with economic feasibility.

2. Abhav Pratinidhi Dravyas in Bhavprakash

The present conceptual work is taken from textual reference of Mishrak Prakran of Poorvankhanda and Nighantu part of Bhavprakash written by Bhavmishra (16th Century). Bhavmishra has compiled the text following the traditional of Samhita and introduced many new drugs for the new diseases of that period. As Nighantus are mainly the glossary of medicinal plants they are always look upon for the study of Dravyas and correlated with Bhaishajya Kalpana for informations on properties, pharmacological activity & therapeutic uses, methods, time, of medicinal plant collection etc. The Abhava pratinidhi Dravya List includes 47 drugs of plant origin (Sthavar Dravya), 2 drugs of animal origin (Jangam Dravya), 7 drugs Minerals-Metals origin (Bhoumya Dravya) and 5 food materials (Ahariya Dravya) [8]. The Pratinidhi dravyas of Bhoumya dravyas are excluded.

Table 1: Pratinidhi Dravyas for Sthavar Dravyas (Substitute Drugs of Plant Origin)

S. N.	Drug	Botanical Names	Family	Part Used	Substitute	Botanical Names	Family	Part Used
1	Chitraka	Plumbago zeylanica Linn	Plumbaginaceae	Root bark	Danti	Baliospermum montanum Muell	Euphorbiaceae	Roots
					Shikhari (Apamarga)	Achyranthes aspera Linn	Amaranthaceae	Kshara(alkalies)
2	Dhanvayas	Alhagi camerlorum Fisch	Fabaceae	Whole plant	Duralabha	Fagonia Arabica Linn	Zygophyllaceae	Whole plant
3	Tagar	Valeriana wallichii DC	Valerianaceae	Root	Kushtha	Saussurea lappa C.B. Clarke	Compositae	Root
4	Murva	Marsdenia tenacissima W	Asclepiadaceae	Root	Jhingini	Odina woodier Roxb.	Anacardiaceae	Stem Bark

5	Ahimsra ^[10]	Capparis sepiaria	Capparidaceae	Root	Mankanda	Alocasia indica (Roxb.) Schott	Araceae	Rhizome/Corm
6	Lakshmana	Solanum xanthocarpum Schrad. or Ipomoea sepiara Koenig ex Roxb	Solanaceae Convolvulaceae	Root, whole plant	Neelakanth ashikha (Mayurshik ha)	Adiantum caudatum Linn or Celosia cristata Linn	Polypodiaceae Amaranthaceae	Whole plant
7	Bakula	Mimusops elengi Linn	Sapotaceae	Flower bark	Kalhaar [Rakta Kumud]	Nelumbo speciosum Willd Nelumbium rubra Roxb.	Nymphaeaceae	flower,
8	Utpal	Nymphaea pubescens Willd Nymphaea stellata Willd	Nymphaeaceae	Flower, stamens	Pankaj	Nelumbo speciosum Willd Nelumbo nucifera Willd	Nymphaeaceae	flower, stamens
9	Neel-utpala	Nymphaea stellata Willd/ Nymphaea Nouchali Burm.f.	Nymphaeaceae	flower, stamens	Kumud	Nymphaea alba/ N.rubra Roxb.ex Andrews /N.edulisDC	Nymphaeaceae	flower, stamen
10	Jati pushpa (Javitri)	Myristica fragrans flout	Myristicaceae	Fruit aril	Lavanga	Syzygium aromaticum (Linn) Merr. & L.M.Perry	Myrtaceae	Flower bud
11	Arka Payas (dugdha)	Calotropis gigantean (Linn) R.Br. ex Ait	Asclepiadaceae	Latex	Arka patra swarasa	Calotropis gigantean (Linn) R.Br. ex Ait	Asclepiadaceae	Leave juice
12	Poushkar	Inula racemosa Hook.f. or Iris germanica Linn	Compositae or Iridaceae	Roots	Kustha	Saussurea lappa C.B. Clarke	Asteraceae	Root
13	Langali	Gloriosa superb Linn	Liliaceae	Bulb	Pippali mula	Piper longum Linn	Piperperaceae	Root
14	Sthouneya	Clerodendron infortunatum L.	Verbenaceae	Leaves Root				
15	Chavika &	Piper chaba Hunter	Piperaceae	Root				
16	Gaja-Pippali	Scindapsus officinalis Schott	Araceae	Fruits				
17	Somraji (Bakuchi)	Psoralea corylifolia Linn	Fabaceae	Seeds, Seed-oil	Prapunnad phala (Chakramar da)	Cassia tora	Caesalpiniaceae	Fruit
18	Daru-nisha (DaruHaridra	Berberis aristata DC	Berberidaceae	Stem-Bark	Nisha (Haridra)	Curcuma longa Linn	Zingiberceae	Rhizome
19	Rasanjana	Berberis aristata DC	Berberidaceae	Extract	Darvi	Berberis aristata DC	Berberidaceae	Decoction
20	Talispatra	Abbies webbiana Lindl	Pinaceae	Leaves	Swarnataali			
21	Bharangi	Clerodendrum serratum Spreng	Verbenaceae	Roots	Talispatra /	Abbies webbiana Lindl	Pinaceae	Leaves
					Kantakari mula	Solanum xanthocarpum Schrad & Wendl	Solanaceae	Roots

22	Madhuyasti	Glycrrhiza glabra Linn	Fabceae		Dhataki	Woodfordia floribunda Salisb	Lytharaceae	Flowers
23	Amlavetasa	Garcinia pedunculata Roxb OR Rheum emodi Wall	Guttiferae Polygonaceae	Fruit	Chukra	Rumex vesicarius Linn	Polygonaceae	Leaves Entireplant
24	Draksha	Vitis vinifera Linn	Vitaceae	Fruit	Kashmari (Gambhari)	Gmelina arborea Linn	Verbinaceae	Fruit
25	Kashmari phala (Gambhari)	Gmelina arborea Linn	Verbinaceae	Fruit	Jati pushpa	Myristica fragrans flout	Myristicaceae	Fruit –aril
26	Draksha & Gambhari	Same as above	Same as above	Same as above	Madhuca	Madhuca indica	Sapotaceae	Fruit
27	Kankola	Piper cubeba Linn.f.	Piperaceae	Fruit	Sugandhi Mustak	Cyperus rotundus Linn	Cyperaceae	Tubers
28	Karpura	Cinnamomum camphora Nees & Eberm	Lauraceae	Extract	Granthipara	Angelica glauca Edgw	Umbelliferae	
29	Kumkum	Crocus sativus Linn	Iridaceae	Stamens/Stigma	Kusumbha	Carthamus tinctorius Linn	Compositae	Fresh Flower
30	Shrikhanda (Sweta chandan)	Santalum album Linn	Santalaceae	Heartwood	Karpura	Cinnamomum camphora Nees & Eberm	Lauraceae	Extract
31	Sweta chandan &	Santalum album Linn	Santalaceae	Heartwood	Rakta chandan	Pterocarpus santalinus Linn.f.	Fabaceae	Heart wood
32	Karpura	Cinnamomum camphora Nees & Eberm	Lauraceae	Extract				
33	Rakta Chandan	Pterocarpus santalinus Linn.f.	Fabaceae	Heart wood	Usheera (Nava)	Vetiveria zizanoides (Linn.) Nash	Gramineae	Fresh Fibrous Root
34	Ativisha	Aconitum heterophyllum Wall	Ranunculaceae	Tuberous root	Musta	Cyperus rotundus Linn	Cyperaceae	Tuberous roots
35	Shiva (Haritaki)	Terminalia chebula Retz	Combrateaceae	Fruit pulp	Shiva (Amalaki)	Emblica officinalis Gaertn.	Euphorbiaceae	Fruit pulp
36	Nagpushpa (Nagkeshar)	Mesua ferrea Linn	Guttiferae	Flower stamens	Padma keshar	Nelumbium speciosum Willd	Nymphaeaceae	Flower stamens
37	Meda ^[10, 12] &	Polygonatum cirrifolium Linn	Liliaceae	Bulbs	Vari (Shatavari)	Asparagus racemosus Willd	Liliaceae	Fasciculate Roots
38	Mahameda ^[10, 12]	Polygonatum verticillate	Liliaceae	Bulbs				
39	Jeevak ^[10, 12] &	Microstylis wallichi Linn	Orchidaceae	Bulbs	Vidari kanda	Pueraria tuberosa D C OR Ipomoea Digitata Linn	Fabaceae Convovulaceae	Bulb
40	Rishbhaka ^[10, 12]	Microstysis muscifera	Orchidaceae	Bulbs				
41	Kakoli ^[10] &	Fritillaria roylei	Liliaceae	Bulbs	Ashwagand -ha	Withania somnifera Dunal	Solanaceae	Roots
42	Ksheerakakoi ^[10, 12]	Lilium polyphyllum D.Don	Liliaceae	Bulbs				
43	Riddhi ^[10, 12] &	Habenaria edgeworthii	Orchidaceae	Bulbs	Varahi kanda	Dioscorea bulbifera Linn	Dioscoreaceae	Bulb
44	Vridhi ^[10, 12]	Habenaria latilabris	Orchidaceae	Bulbs				
45	Varahi kanda ^[11,12] (Grushti)	Dioscorea bulbifera Linn	Dioscoreaceae	Bulb	Charmakar alu	Tacca aspera Roxb.	Taccaceae	Bulb
46	Bhallatak	Semecarpus	Anacardiaceae	Fruit	Rakta	Pterocarpus	Fabaceae	Heartwood

	asahatva	anacardium Linn f			chandan	santalinus Linn.f.		
47	Bhallatak	Semecarpus anacardium Linn f	Anacardiaceae	Fruit	Chitra	Plumbago zeylanica Linn	Plumbaginaceae	Root bark

Table 2: Pratinidhi Dravya for Jangam Dravyas (Substitute Drugs of Animal Origin)

S. N.	Drug	Botanical Names	Family	Part Used	Substitute	Botanical Names	Family	Part Used
1	Kasturi	Moschus moshifera	Cervidae	Secretion from gland of male deer	Kankola	Piper cubeba Linn f. Piperaceae		
2	Nakha	Helix aspersa	Helicidae	Snail (animal product)	Lavanga pushpa	Syzygium aromaticum (Linn) Merr. & L.M. Perry	Myrtaceae	Flower-bud, oil

Table 3: Pratinidhi Dravya for Ahariya Dravya (Substitute for Food Substances)

S. N.	Drug	Latin Names	Family	Part Used	Substitute	Botanical Names	Family	Part Used
1	Ikshu	Saccharum officinaria	Gramineae	Stem, roots	Nala	Phragmites Kirka Trin.ex.Steud or Lobelia nicotianaefolia	Graminae Lobeliaceae	Roots, stems
2	Madhu	Obtain from Honey Bees		Beehive extract	Jeerna guda	Obtained from Saccharum officinaria		Jaggery
3	Matsya khanda	Condensed extract of Saccharum officinaria		Solid extract from juice	Sita sharkara	Common sugar obtained from Saccharum officinaria	Gramineae	Particle sized common sugar crystals
4	Sita	Common sugar obtained from Sacc harum officinaria		Particle size d, common sugar, crystals	Khanda	Crude sugar obtained from Sacc harum officinaria		Crude bigger size sugar
5	Ksheera			Milk	Mudga rasa/ Masurak rasa	Phaseolus aureus Lens culinaris	Fabaceae Fabaceae	Seeds /Grains Seeds /Grains

As the main requirement for an appropriate Pratinidhi Dravya is to possess similar gunas to that of original drug, the Abhava Pratinidhi dravyas were compared on basis of their Rasapanchak i.e. Guna (properties), Rasa (taste), Vipaka (post digestion and metabolism effect), Veerya (potency) along with Karma (actions) and Roghanata (Indications). Even though the reason for the absence of drugs is not clearly mentioned, but non-availability of drugs seems to be the major reason due to deficiency of plant subjected to specific regional distribution e.g. Sweta Chandan, Yastimadhu or expensive drugs like Kumkum or over exploited drug like Daruharidra or rare/extinct drug in case of Ashtavarga. It is Stated that Ashtavarga were rare even to the kings, hence substitutions is suggested which can be within reach of wide population from rich to the poor. It is not clear to how and why only a particular substitute is selected in spite of many other drugs with similar Gunas are available. However the criteria for substitution have to be appropriate through skilled discrimination of Vaidya (Ayurveda Physicians). The mentioned instances serves only as a guideline, author has encouraged inclusion of newer substitute with proper logic and reasoning to select a substitute and any drug not suitable therapeutically should be excluded. While preparing a formulation, substitution is only applicable for secondary ingredient and not for the main ingredient.

Table 4: Rasapanchakas of Abhava and Pratinidhi of Sthavar Dravya & Summary of Similarities

S. N.	Dravya	Guna	Rasa	Vipaka	Veerya	Doshaghnata	Karma	Roghanata
1	Chitrak	Laghu Ruksha	Katu	Katu	Ushna	Vata-Kaphahar	Vanhi krita(Deepan), Pachan, Grahi	Grahani, Kushtha, Shotha, Arsha, Krimi
	Danti	Sara Tikshna	Katu	Katu	Ushna	Kaphahar	Deepan, Vidaha nashan	Arsha, Ashmari, Shula, Kandu Rakta dosha, Kushtha, Rakta-pitta, Shotha, Udar, Krimi
	Apamarga	Sara Tikshna Kshara	Tikta Katu	Katu	Ushna	Kapha-Vatahar	Deepana, Pachana, Rochana, Medohar	Chhardi, Medo-roga, Hridrog, Adhman, Arsha, Kandu, Shula, Udara, Apachi
	Similarities	-	Katu	Katu	Ushna	Kaphahar	Deepana, Pachana	Arsha, Kushtha, Shotha, Krimi,
2	Dhanvayas (Yavasa)	Sara Laghu	Madhura TiktaKash aya	Katu	Sheeta	Kapha-pitta har Rakta-dosha har	Madahar. Bhrantihar. Jwarahara, Kushthaghna, Kasahar	Meda, Mada, Bhranti.Jwar, Raktapitta, Kushtha, Kasa, Trishnahar, Visarpa, Vatarakta, Chhardi.
	Duralabha(Dhamas)	Sara Laghu	MadhuranTiktaKashaya	Katu	Sheeta	Kapha-pitta har Rakta-dosha har	Madahar. Bhrantihar. Jwarahara, Kushthaghna, Kasahar	Meda, Mada, Bhranti.Jwar, Raktapitta, Kushtha, Kasa, Trishnahar, Visarpa, Vatarakta, Chhardi.
	Similarities	Sara Laghu	Madhura TiktaKash aya	Katu	Sheeta	Kapha-pitta har Rakta-dosha har	Madahar.Bhrantihar, Jwarahara, Kushthaghna, Kasahar	Meda, Mada, Bhranti.Jwar, Raktapitta, Kushtha, Kasa, Trishnahar, Visarpa, Vatarakta, Chhardi.
3	Tagara	SnigdhaLaghu	Madhura	Katu	Ushna	Tridosahar Vatahar	Vishaghna, Shulahar	Visharoga, Apasmar, ShulaharAkshi vikar,
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
	Similarities	Laghu	Madhura	Katu	Ushna	Vatahar	-	-
4	Murva	Sara Guru	Madhura Tikta			Tridosahar		Rakta-pitta, Pramehahar, Trishna, Kandu, Hridroga, KushthaJwar
	Jhingini	Snigdha	Madhura Kashaya Patu (lavana)	Katu	Ushna	Vatahar	Vrana-shodhini	Vrana, Atisaar, Hridroga
	Similarities	-	Madhura	-	-	-	-	Hridroga
5	Ahimsra	Laghu Ruksha	Katu Tikta	Katu	Ushna	Kapha-Vata har	Shothahar, Ruchya, Deepana	Vrana, Yoni-Vikara, Shotha
	Mankanda	Laghu Snigdha	Madhura	Madhura	Sheeta	Vata-Pittahar	Shothahar	Shotha, Rakta-pitta
	Similarities	Laghu	-	-	-	-	Shothahar	Shotha
6	Lakshmana	Laghu Ruksha	Katu Tikta katu	Katu	Ushna	Vata-Kaphahar pittavardhak	Shukra-rechan, Bhedi, Kanduhar Specially Putrada, Vashya	Kandu, Kasa, Medaroga, Krimi, Jwar
	Neelkanthashikha	Laghu Ruksha	Tikta	Katu	Sheeta	Pitta-Kapha har	Grahi	Atisaar
	Similarities	Laghu Ruksha	Tikta	Katu	-	Kaphahar	-	-
7	Bakula	Guru	Katu Tikta Kashaya	Katu	Anushna	Pitta-kaphahar	Vishahar, Raktadosahar	Visha, Yonishula, Trishna, Daha, shotha, kushtha, Raktavikara

	Kalhar	Guru Ruksha	Kashaya	Katu	Sheeta	Kapha-pittahar	Grahi, Vishtambhi	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
	Similarities	Guru	Kashaya	Katu	-	Kapha-pittahar	-	Trishna, Visha, Raktavikar, Daha
8	Utpal	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
	Pankaj	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
	Similarities	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
9	Neel-utpal	Guru	Madhura	Katu	Sheeta	Kapha-pittahar	Varnya	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
	Kumud	Guru Ruksha	Kashaya	Katu	Sheeta	Kapha-pittahar	Grahi, Vishtambhi	Trishna, Daha, Visha, Rakta vikara, Visphota, Visarpa
	Similarities	Guru	-	Katu	Sheeta	Kapha-pittahar	-	Trishna, Daha, Visha, Rakta-vikara, Visphota, Visarpa
10	Jatipushpa	Laghu	madhura	Katu	Ushna	Kaphahar	Ruchikar, Varnakar	Kasa, Vami, Swasa, Trishna, Krimi, Visha
	Lavanga	Laghu	Katu Tikta	Katu	Sheeta	Kapha-pitta har	Deepana, Pachan, Ruchikar	Trishna, Chhardi, Adhman, Shula, Kasa, Swasa, Hikka, Kshaya
	Similarities	Laghu	-	Katu	-	Kaphahar	Ruchikar	Kasa, Swasa, Trishna
11	Arka-payasa	Laghu	Tikta Salavan	Katu	Ushna	Kaphahar	Shrestha Virechan	Kushtha, Gulma, Udara
	Arka patra swaras	Laghu	Sa-Tikta Madhura	Katu	Ushna	Kaphahar	Sangrahi	Kushtha, Gulma, Krimi, Arsha, Visha, Shotha
	Similarities	Laghu	Tikta	Katu	Ushna	Kaphahar	-	Kustha ,Gulma
12	Poushkar	Laghu	Katu Tikta	Katu	Ushna	Vata-kaphahar	Shulahara Shothhar Ruchya	Jwara, shotha, Aruchi, Swasa, especially in Parshwa-shula.
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
	Similarities	Laghu	Katu Tikta	Katu	Ushna	Vata-Kaphahar	-	-
13	Langali	Sara TikshnaK shara Laghu	Tikta Katu Kashaya	Katu	Ushna	Kaphahar Pittakar	Garbha-patini	Kushtha, Shotha, Arsha, Vrana, Shula, Krimi
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
	Similarities	Laghu	Katu Tikta	Katu	Ushna	Kaphahar	-	Kushtha
14	Sthouneya	Snigdha	Katu Madhura Tikta	Katu	Ushna	Tridosahar	Medhya, Shukrala, Ruchya, Rakshoghna	Jwara, Jantu, Kushtha, Trishna, Daha, Daugandha, Tilkalak, Raktavikar a,
	Kushtha	Laghu	Katu Madhura Tikta	Katu	Ushna	Vata-kaphahar	Shukral	Vatarakta, Visarpa, Kasa, Kushtha
	Similarities	-	Katu Madhura Tikta	Katu	Ushna	-	Shukrala	Kushtha
15	Chavika	Laghu Ruksha	Katu	Katu	Ushna	Vata-kaphahar	Agnivardhak	Specially in Guda-vikara

	Gaja-Pippali	Laghu Ruksha	Katu	Katu	Ushna	Vata-kaphahar		Atisaar, Swasa, Kantharoga, Krimi
	PippaliMula	Laghu Ruksha	Katu	Katu	Ushna	Kapha- Vatahar	Deepan, Pachan, Bhedana	Udara, Anaha, Pleeha, Krimi, Gulma, Swasa, Kshaya
	Similarities	Laghu Ruksha	Katu	Katu	Ushna	Kapha- Vatahar	Deepana, Pachan	Krimi, Swasa
16	Somraji (Bakuchi)	RukshaS ara	Madhura Tikta	Katu	Ushna	Vatahar Pittala	Keshya, Twachya, Pachan	Krimi, Swasa, Kasa, Shotha, Amadosha, Pandu
	Prapunnad	Laghu Ruksha	Madhura Katu	Katu	Ushna	Vatahar	Kandughna	Kushtha, Kandu, Dadru, Gulma, Kasa, Krimi, Swasa
	Similarities	Laghu	Madhura	Katu	Ushna	Vatahar	Kandughna. Tachya	Kushtha, Kandu, Dadru
17	Daru-nisha (Daru-Haridra)	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	Twakdosahar,	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana Visha, specillay in Netra-roga and Karna-roga
	Nisha	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar	Varnya	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana
	Similarities	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar	Twakdosahara	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana, Visha
18	Rasanjana	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	Rasayan Chhedan	Netraroga, Visha, Vrana
	Darvi-kwath	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	Twakdosahar,	Twakdosha, Meha, Raktavikara, shotha, Pandu, Vrana Visha, specillay in Netra-roga and Karna-roga
	Similarities	Ruksha	Katu Tikta	Katu	Ushna	Kaphahar Raktadoshahar	-	Netraroga, Vrana Visha
19	Talispatra	Laghu Tikshna	Katu	Katu	Ushna	Kapha-Vatahar	Deepan, Pachan, Ruchya	Aruchi, Gulma, Agnimandya Kshaya, Amadosha
	Swarnataali							
	Similarities							
20	Bharangi	Ruksha	Katu Tikta Kashaya	Katu	Ushna	Kapha-Vatahar	Ruchya, Deepana, Pachan	Gulma, Rakta-dosha, Shotha, Kasa, Swasa, Pinas, Jwar
	Talispatra	Laghu Tikshna	Katu	Katu	Ushna	Kapha-Vatahar	Ruchya, Deepana, Pachan	Aruchi, Gulma, Agnimandya Kshaya, Amadosha
	Kantakari Mula	Sara Laghu Ruksha	Tikta Katu	Katu	Ushna	Kapha-Vatahar	Deepana, Pachan	Kasa, Swsa, Jwara, Pinas, Krimi, Hridroga
	Similarities	Laghu	Katu	Katu	Ushna	Kapha-Vatahar	Deepana, Pachan	Kasa, Swasa, Kshaya, Pinas
21	Madhuyasti	Laghu Susnigdha	Madhura Kashya	Madhura	Sheeta	Pitta –Vatahar Raktadoshahar	Chakshushya, Balya, Shukrala, Keshya, Swarya,	Vranshatha, Visha, Chhardi, Trishna, Glani, Kshaya
	Dhataki	Laghu Mrudu	Kashaya Katu	Katu	Sheeta	Pitta-Vata har	Raktadoshahar	Trishna, Atisaar, Visarpa, Raktadosha, Visha, Krimi
	Similarities	Laghu	Kashaya	-	Sheeta	Pitta-Vata har	-	Trishna, Visha
22	*Amlavetasa	Laghu Ruksha	Ati-amla	Amla	Ushna	Kapha-Vatahar Pittakar	Deepan, Bhedan	Hridroga, Gulma, Pleeha, Vinmutradosha, Udavarta, Hikka, Anaha, Aruchi, Swasa, Kasa, Jeerna Vami
	Chukra	Laghu	Ati-amla	Amla	Ushna	Kapha-Vatahar Pittakar	Deepan, Pachan Param Ruchya	Shula, Gulma, Vibandha, Trishna, Hritpeeda, Agnimandya Asyavairasya,

								Vami
	Similarities	Laghu	Ati-amla	Amla	Ushna	Kapha-Vatahar Pittakar	Deepan, Rochaka	Gulma, Vibandha, Trishna, Hritpeeda, Agnimandya Aruchi, Vami
23	Draksha	Sara Guru	Madhura Kashaya	Madhura	Sheeta	Vata-Pittahar Kaphakar	Chakshushya, Brimhana, Swarya, Srishtavinmutra	Trishna, Jwara, swasa, Vatarakta, Kamala, Mutrakrichha, Raktapitta, Daha, Shosha, Madatya
	Kashmari phala (Gambhari)	Snigdha Guru	Madhura Kashaya Amla	Madhura	Sheeta	Vata-Pittahar	Keshya, Brimhana, Vrishya, Rasayan	Raktakshaya, Mutravibandha, Daha, Vatarakta, Kshata, Kshaya, Raktapitta
	Similarities	Guru	Madhura Kashaya	Madhura	Sheeta	Vata-Pittahar	Brimhana,	Raktakshaya, Mutravibandha, Daha, Vatarakta, Kshaya, Raktapitta
24	Draksha & Kashmari Phala	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above	Same as above
	Madhuka Pushpa	Guru Mridu	Madhura Kashaya	Katu	Sheeta	Vata-Pittahar	Shukral	Hridroga, Trishna, Daha, Raktavikara, Swasa, Kshat, Kshaya
	Similarities	Guru	Madhura Kashaya	-	Sheeta	Vata-Pittahar	Vrishya	Trishna, Daha, Raktavikara, Swasa, Kshaya
25	Kankola	Laghu Tikshna Sugandhi	Katu Tikta	Katu	Ushna	Kapha Vatahar	Ruchya, Hridya	Mukha-dourgandhya, Hridroga, Vata-vyadhi, Andhya
	Jatipushpa	Laghu Sugandhi	Madhura	Katu	Ushna	Kaphahar	Ruchikar, Varnakar	Kasa, Vami, Swasa, Trishna, Krimi, Visha
	Similarities	Laghu Sugandhi	-	Katu	Ushna	Kaphahar	Ruchya	Mukhadourgandhya
26	Karpura	Laghu Surabhi	Madhura Tikta	Katu	Sheeta	Kapha-Pitta har	Lekhana, Vrishya, Chakshushya, Vishahar	Daha, Visha, Trishna, Medoroga, Asyavairashya, Dourgandhya
	Sugandhi Mustak	Laghu , Ruksha Sugandhi	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pittahar Raktadosha	Deepana, Pachana, Grahi	Trishna, Raktavikara, Jwara, Aruchi, Jantu
	Similarities	Laghu Sugandhi	Tikta	Katu	Sheeta	Kapha-Pitta har	-	Trishna, Aruchi,
27	Karpura	Laghu Surabhi	Madhura Tikta	Katu	Sheeta	Kapha-Pitta har	Lekhana, Vrishya, Chakshushya, Vishahar	Daha, Visha, Trishna, Medoroga, Asyavairashya, Dourgandhya
	Granthiparna	Laghu Tikshna Sugandhi	Madhura Tikta	Katu	Sheeta	Kapha-Vatahar	Hridya, Rakshoghna,	Kushtha, Kandu, Sweda, Medoroga, Raktavikara, Jwara, Visha, Vrana
	Similarities	Laghu Sugandhi	Madhura Tikta	Katu	Sheeta	Kapha-Vatahar	Vishahar	Daha, Sweda, Visha
28	Kumkum	Snigdha Ranjak (coloring)	Katu Tikta	Katu	Ushna	Tridosahar	Varnya, Vamihar	Shiroroga, Vami, Vran, Jantu, Vyangadosha
	Kusumbha	Ranjak (coloring)	-	Katu	Sheeta	Kaphahar Vatala	-	Mutrakrichha, Raktapitta
	Similarities	Ranjak	Tikta	Katu	-	-	-	-
29	Shrikhandan (Sweta chandan)	Ruksha Laghu Surabhi	Tikta	Katu	Sheeta	Kapha-Pitta har	Alhadana, Shramahar	Shrama, Shosha, Visha, Trishna, Raktapitta, Daha, Rakta-dosha
	Raktachandan	Guru Sheet	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
	Similarities	Sheet	Tikta	Katu	Sheeta	Kapha-Pitta har	-	Visha, Vrana, Rakta-pitta, Daha

30	Karpura	Laghu Surabhi	Madhura Tikta	Katu	Sheeta	Kapha-Pitta har	Lekhana, Vrishya, Chakshushya, Vishahar	Daha, Visha, Trishna, Medoraga, Asyavairashya, Dourgandhya
	Raktachandan	Guru Sheet	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
	Similarities	Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Vrishya	Daha, Visha,
31	Rakta Chandan	Guru Sheet	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
	Usheera	Laghu	Tikta	Katu	Sheeta	Kapha-Pitta har	Stambhana	Jwara, Vanti, Mada, Trishna, Raktadosha, Visha, Visarpa, Mutrakrichha, Vrana
	Similarities	-	Tikta	Katu	Sheeta	Kapha-Pitta har	Stambhana	Vrana, Visha, Chhardi, Raktadosha
32	Ativisha	Laghu Ruksha	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pitta har	Deepana, Pachan,	Atisaar, Amadosha, Visha, Kasa, Vaman, Krimi
	Musta	Laghu ,Ruksha Sugandhi	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pittahar Raktadosha	Deepana, Pachana, Grahi	Trishna, Raktavikara, Jwara, Aruchi, Jantu
	Similarities	Laghu Ruksha	Katu Tikta Kashaya	Katu	Sheeta	Kapha-Pitta har	Deepana, Pachan,	Atisaar, Amadosha, Krimi
33	Shiva (Haritaki)	Laghu Ruksha	Kashaya Madhura Tikta Katu Amla	Madhura	Ushna	Tridosahar	Medhya, Deepan, Anuloman, BrimhanAyushya, Chakshushya	Swasa, Kasa, Prameha, Arsha, Kushtha, Shotha, Udara, Krimi, Vibandha, Vishamjwara, Chhardi, Trishna, Hridroga, Kamala, Shula, Pleea, Kandu, Yakrit, Ashmari, Mutrakrichha, Mutraghata Grahani, Vaswarya
	Shiva (Amalaki)	Snigdha Sara	Amla Kashaya Madhura Tikta Katu	Madhura	Sheeta	Tridosahar	Medhya, Deepan, Anuloman, BrimhanAyushya, Chakshushya, especially Vrishya Rasayan	Swasa, Kasa, Prameha, Arsha, Kushtha, Shotha, Udara, Krimi, Vibandha, Vishamjwara, Chhardi, Trishna, Hridroga, Kamala, Shula, Pleea, Kandu, Yakrit, Ashmari, Mutrakrichha, Mutraghata Grahani, Vaswarya Rakta-pitta, Prameha
	Similarities	-	Panchrasa	Madhura	-	Tridosahar	Medhya, Deepan, Anuloman, Brimhan Ayushya, Chakshushya, especially Vrishya Rasayan	Swasa, Kasa, Prameha, Arsha, Kushtha, Shotha, Udara, Krimi, Vibandha, Vishamjwara, Chhardi, TrishnaHridroga, Kamala, Shula, Pleea, Kandu, Yakrit, Ashmari, Mutrakrichha, Prameha Mutraghata, Grahani, VaswaryaRakta-pitta,
34	Nagpushpa (Nagkeshar)	Ruksha	Kashaya	Katu	Ushna	Kapha-Pittahar	Amapachan	Jwara, Kandu, Trishna, Sweda, Chhardi, Hrillas, Dourgandhya, kushtha, Visarpa, Visha
	Padma keshar	Ruksha	Kashaya	Katu	Sheeta	Kapha -Pittahar	Vrishya	Trishna, Daha, Rakta-Arsha, Visha, Shotha
	Similarities	Ruksha	Kashaya	Katu	Sheeta	Kapha –Pittahar	-	Trishna, Rakta-Arsha, Visha
35	Meda &	Guru	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Stanyajanan, Brimhana Raktastambhak	Rakta-pitta, Jwara

36	Mahameda	Guru	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Stanyajanan, Brimhana Raktastambhak	Rakta-pitta, Jwara
	Shatavari	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Medhya, Rasayan, Pushi, Netrya, BalyaShukral, Stanyajanan,	Gulma, Atisaar, Shotha
	Similarities	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Rasayan, Shukral, Stanyajanan	-
37	Jeevak &	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Balya, Shukrala,	Daha, Raktavikara, Karshya, Kshaya
38	Rishbhaka	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Balya, Shukrala,	Daha, Raktavikara, Karshya, Kshaya
	Vidarikanda	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral Stanyajanan, Swarya, Mutral, Balya, Jeevan, Varnya, Rasayan	Daha, Rakta-pitta
	Similarities	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Balya, Shukrala,	Daha, Raktavikara
39	Kakoli &	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral,	Daha, Rakta-pitta, Sho sha, Jwara
40	Ksheerakakoli	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral,	Daha, Rakta-pitta, Sho sha, Jwara
	Ashwaganadha	Guru snigdha	Madhura Tikta Kashaya	Madhura	Ushna	Vata-Kaphahar	Ati- Shukral, Balya, Rasayana	Shotha, Shwitra, Kshaya
	Similarities	Guru snigdha	Madhura	Madhura	Sheeta	Pitta-Vatahar Kaphakar	Brimhana, Shukral,	Daha, Rakta-pitta,
41	Riddhi &	Guru snigdha	Madhura	Madhura	Sheeta	Tridosahar Piitahar	Shukral, Pranakari, Aishwarya, Garbha- prada, Vrishya	Murchha, Rakta-pitta, Raktadosha, Kshat, Kshaya
42	Vridhhi	Guru snigdha	Madhura	Madhura	Sheeta	Tridosahar Piitahar	Shukral, Pranakari, Aishwarya, Garbha- prada, Vrishya	Murchha, Rakta-pitta, Raktadosha, Kshat, Kshaya
	Varahi kanda (Grushti)	Guru	Madhura Tikta	Katu	Ushna	Kapha-Vatahar Pittakar	Shukral, Swarya, Varnya, Agnibala, Rasayan	Kushtha, Meha, Krimi
	Similarities	Guru	Madhura	-	-	Pittahar	Shukral, Rasayan	Raktadosha, Kushtha
43	Varahi kanda (Grushti)	Guru	Madhura Tikta	Katu	Ushna	Kapha-Vatahar Pittakar	Shukral, Swarya, Varnya, Agnibala, Rasayan	Kushtha, Meha, Krimi
	Charmakaalu	Guru	Madhura Tikta	Katu	Sheeta	Kaphakar Vatakar	Balya, Vrishya,	Rakta-pitta, Kushtha
	Similarities	Guru	Madhura Tikta	Katu	Sheeta	Kaphakar	Balya, Rasayan	Kushtha
44	Bhallatak asahatva	Laghu Snigdha Tikshna	Kashaya Madhura	Madhura	Ushna	Vata-Kaphahar	Chhedan, Bhedan, Medhya, Agnimandya, Shophakar	Udara, Anaha, Arsha, Grahani, Gulma, Jwara, Shwitra, Vami, Shotha
	Raktachandan	Guru Sheeta	Tikta Madhura	Katu	Sheeta	Kapha-Pitta har	Netra-hita, Vrishya	Chhardi, Daha, Rakta-pitta, Jwara, Vrana, Visha
45	Bhallatak	Laghu Snigdha Tikshna	Kashaya Madhura Katu	Madhura	Ushna	Vata-Kaphahar	Chhedan, Bhedan, Medhya, Agnimandya, Shophakar	Udara, Anaha, Arsha, Grahani, Gulma, Jwara, Shwitra, Vami, Shotha
	Chitrak	Laghu Ruksha	Katu	Katu	Ushna	Vata-Kaphahar	Vanhi krita(Deepan), Pachan, Grahi	Grahani, Kushtha, Shotha, Arsha, Krimi
	Similarities	Laghu	Katu	-	Ushna	Vata-Kaphahar	Deepana, Pachan	Grahani, Kushtha, Arsha, Shotha,

Table 5: Rasapanchakas of Abhava and Pratinidhi of Jangam Dravya & Summary of Similarities

S. N.	Dravya	Guna	Rasa	Vipaka	Veerya	Doshaghnata	Karma	Roghanata
1	Kasturi	GuruKshara Tikshna, Sugandha	Katu Tikta	Katu	Ushna	Kapha-Vatahar	Shukral	Visha, Chhardi, Sheeta Dourgandhya, Shosha
	Kankola	Laghu, Tikshna Sugandha	Katu Tikta	Katu	Ushna	Kapha-Vatahar	Ruchikara Hridya	Mukha Dourgandhi, Hrid- roga, Andhya
	Similarities	Tikshna, Sugandha	Katu, Tikta	Katu	Ushna	Kapha-Vatahar	-	Dourgandhya
2	Nakha	Laghu Sugandha	Katu	Katu	Ushna	Kapha-Vatahar	Shukrajana n , Varnya	Graha, Raktadosha, Jwara, Kushtha, Vrana, Visha, Alakshmi, MukhaDourgandhya
	Lavanga -Pushpa	Laghu Sugandha	Katu Tikta	Katu	Sheeta	Kapha-pitta har	Deepana, Pachan, Ruchikar	Trishna, Chhardi, Adhman, Shula, Kasa, Swasa, Hikka, Kshaya
	Similarities	Laghu	Katu	Katu	Ushna	Kapha-Vatahar	-	-

Table 6: Rasapanchakas of Abhava and Pratinidhi Ahariya Dravya & Summary of Similarities

S. N.	Dravya	Guna	Rasa	Vipaka	Veerya	Doshaghnata	Karma	Roghanata
1	Ikshu	Snigdha Guru	Madhura	Madhura	Sheeta	Kaphakar	Balya, Vrishya, Mutrala	Rakta-pittaghna
	Nala	Guru	Madhura Tikta Kashaya	Madhura	Ushna	Pittahar Kaphakar Raktadoshahar	Mutrala	Raktavikara, Hridroga, Bastiroga, Yonivikara, Daha, Visarpa
	Similarities	Guru	Madhura	Madhura	-	Kaphakar	Mutrala	Basti-Vikara
2	Madhu	Sukshma Guru VishadaY ogavahi	Madhura Kashaya	Katu	Sheeta	Pitta-Kaphahar Alpa Vatala	Grahi, Vilekhana, Chakshushya, Deepan, Swarya, Vranashodhak, Ropana, Hridya, Varnya, Prasadak, Medhya, Vrishya	Kushtha, Arsha, Kasa, Raktavikara, Meha, Klama, Krimi, Medoroga, Trishna, Kshata, kshaya, Swasa, Hikka, Atisaar Vidgraha, Daha
	Jeerna-guda	Laghu Anaabhis hyandi	Madhura	Madhura	Ushna	Vata-Pittaghna	Agnivardhak, Vrishya, Pushti, Raktaprasadak Pathya	Kshaya, Klama, Trishna
	Similarities	-	Madhura	-	-	Pittahar	Vrishya, Pushti, Raktaprasadak, Deepan	Kshaya, Klama
3	Matsya –khanda	Laghu	Madhurta	Madhura	Sheeta	Pitta-Vatahar	Bhedana, Balya, Vrishya, Brimhana, Raktadoshahar	Raktadosha
	Sita-sharkara	Su-sweta Atisheeta	Su- Madhura	Madhura	Ati- Sheeta	Vata-Pittahar	Ruchya, Raktadosha, Daha, Shukral	Daha, Murchha, Jwara, Raktadosha
	Similarities	-	Madhura	Madhura	sheeta	Vata-Pittahar	Shukral, Raktadoshahar	Raktadosha
4	Sita	Laghu Sara	Madhura	Madhura	Sheeta	Vata-Pittahara	Raktapittahar	Raktapittahar
	Khanda	Guru Ruksha	Madhura Kashaya	Madhura	Sheeta	Kapha-Pittahar	Raktavikarahar	Vaman, Atisaar, Daha, Chhardi, Raktadosha,
	Similarities	-	Madhura	Madhura	Sheeta	Pittahar	Raktavikara har	Raktadosha
5	Ksheera	Snigdha Guru Sarak	Madhura	Madhura	Sheeta	Kapha-Pitta har	Quick Shukral, Satmya, Jeevan, Brimhana, Balya, Medhya, Vajeekaran Param, Vayasthapan,	-

							Ayushya, Rasayan, Sandhikarai	
	Mudga rasa	Laghu- Ruksha	Madhura	Madhura	Sheeta	Kapha-Pittahar Alpa vatal	Grahi, Netrya, Jwarahara, Pathyakar, Hitakar	Jwara, Netraroga
	Masurak rasa	Laghu- Ruksha	Madhura	Madhura	Sheeta	Kapha-Pittahar Vatakar	Sangrahi	Raktavikara, Jwara
Similarities	-		Madhura	Madhura	Sheeta	Kapha-Pittahar	Pathya, Hitkar	-

3. Discussion

The present review finds that author has concentrated more on herbal origin drugs rather than other types of Dravyas (Table 1). Among all categories of Pratinidhi Dravayas, 29 drugs showed similar medicinal part used and 23 drugs with different medicinal part used (Table 1, 2, 3). In most of examples Pratinidhi dravyas showed similarities in rasapanchak, actions and indications with differences on one or two level of attributes (Table 4, 5, 6). Almost all the Abhava Pratinidhi dravyas are dissimilar taxonomically as they belong to different families or species (Table 1). Interspecies and Intraspecies substitution is suggested e.g. Pushkar mula is said to be Kushtha-bheda (variety) and Neelutpal is one of the species of same family as that of Kumud (Table 1). In some instances as in example of Duralabha, source wise it is entirely different plant from Yavasa but used as its substitute due to similarities in guna (Table 1, 4). Same has been mentioned for examples of Sweta-Chandan & Rakta-Chandan, Varahi & Charmakalu (Table 1, 4). One single substitute is suggested for 4 Abhava Dravya e.g. Kushtha is substituted for Tagar, Poushkar, Langali and Sthouneya, which seems to conserve four valuable plants (Table 1). The Abhava (absence) in one instance is not regarding the non-availability of drug but drug intolerance and thus the given substitute is totally opposite in Gunas e.g. Bhallatak is extremely Ushna and exhibits side effects of blisters on skin and can create intolerance, so it is substituted with anti-dote like Rakta-Chandan (Table 1, 4). This gives an understanding that if any drug proven to be unsuitable should be discarded. Many expensive or rare drugs like Kumkum, Kasturi, Chandan, Yastimadhu, Ashtavarga plants etc. are substituted with low cost, easily available & abundance drugs throughout the country. All the Jangam Dravayas (animal origin) e.g. Kasturi, Nakhi are substituted with Sthavar Dravyas (Plant origin) (Table 2, 5) as there could be limitation in availability of animal products and enables to avoid over-exploitation of that animal in a way leads to conservation of fauna. The substitute Kankol is not similar to Kasturi activity wise but possesses similar rasa-panchak and share common therapeutic use as Dourgandha nashan (Table 5). Substitutes used not only seems to be always raw but also processed e.g. Rasanjan is an extract where the decoction of the Bark of Daru haridra is cooked with goat's milk to form a condensed lump. Such processed Drug is substituted with quicker version with the decoction of the same plant (Table 1, 4). In some instances vice-versa is given e.g. Madhu is raw drug which is substituted with Old Jaggery. Jaggery is processed juice prepared by heating & obtained from Sugarcane (Table 3, 6). Ahariya dravyas (food substances) were substituted only with Ahariya Dravyas and not Medicinal plants (Table 3). Shiva is a common synonym used for both Haritaki and Amalaki which means that drugs with similar property and activity share the same synonyms (Table 1, 4). Particular stage of medicinal part used is been mentioned to serve as substitute e.g. Fresh roots of Usheer is substituted for Rakta-Chandan as it develops a good cooling property to be equivalent with the original drug (Table 1, 4). The most important criteria of Pratinidhi seem to be similarity in Indications, Pharmaco-Therapeutic uses, as given in example of Ahimsra and Mankanda (Table 1, 4). They both are totally dissimilar on guna, rasa, veerya, ipaka level but possess similar activity of 'Shothahar' [8] (Table 4). As the criteria for Selection of Pratinidhi has been clearly stated there seems to be no binding to what one has to choose as a substitute. To select a proper substitute one has to not only seek overall Guna (Rasapanchak) similarities, but also test its therapeutic efficacy clinically. To assess drug on physico-chemical and clinical similarities requires further research.

4. Conclusion

Pratinidhi Dravyas are stand-by to Abhava dravyas. Ayurveda suggests use of appropriate locally available plant which are easy to obtain and in abundance. There is always a scope to add newers substitute for Abhav dravyas and discard the clinically unproven unsuitable drug in today's era. India is rich in 45000 diverse species of this only 7000-7500 plants are utilize in traditional medicine. The rational substitution in Ayurveda is based on similarities in Guna of both the drugs and not on inferior qualities. It should be properly validated in contemporary context using both Ayurvedic principles and Modern Scientific tools. India is significant player in global herbal market. Substitution in a rational way could be of help to yield quality herbal products. Pratinidhi serves to overcome problem of non-availability of expensive, rare or difficult to obtain drugs of plants as well as animal origin and thus solve the problem of scarcity of drugs and indirectly help in conservation and sustainability of medicinal plants.

References

- [1] Bhav Mishra, 2002: Bhavprakash, First part, Vidyotini Hindi Commentary Notes Appendix by Shri Brahma Shankara Mishra and Shri Ruplal Vaishya, Poorvakhand Mishrak Prakaran, 6/138-168 Choukhamba Sanskrit Samsthan, Varanasi, 959.
- [2] Vaman Shivram Apte, 2006: *The Practical Sanskrit English Dictionary*. Motilal Banarsidas, Varanasi, 1160.
- [3] Vagbhat, 2007: Ashtang Hridayam Vol. 1 translated by Prof. K.R. Shri Kanth Murthy, Sutrasthan Shodhanadigana Samgraha 15/46 Chowkhamba Krishnadas Academy, Varanasi, 523.
- [4] D. Shanthakumar Lucas, 2006: *An Introduction to Nighantu of Ayurveda*. Choukhamba Sanskrit Bhawan, Varanasi. 258.
- [5] P.V. Sharma. 2007: *DravyagunaVijnana*. Vol. 1, Chaukhamba Bharati Academy, Varanasi, 512.
- [6] Agnivesha, 2007: Charak Samhita Vol. 1, Vaidyamanorama Hindi Commentary by Acharya Vidyadhar Shukla and Prof Ravi Dutt Tripathi, Sutrasthan Sodhanadigana Samgraha 15/46, Chaukhamba Sanskrit Pratishthan, Delhi, 916.
- [7] Agnivesha, 2009: Charak Samhita with Ayurveda-Dipika Commentary by Chakrapani Datta, Sutrasthan. Sodhanadigana Samgraha 15/46 Chaukhamba Surbharti Prakashan, Varanasi, 738.
- [8] Bhavmishra, 2010: Bhavprakash Nighantu, Commentary by K.C. Chuneekar and Edited by G.S. Pandey, Choukhambha Bharati Academy, Varanasi, 960.
- [9] P.K. Mukherjee, 2002: *Quality Control of Herbal Drug an Approach to Evaluation of Botanicals*. Business Horizon, 800.
- [10] G. Pandey, 2005: *Dravyaguna Vijnana*. Vol. 1, Choukhambha Bharati Academy, 943.
- [11] P.V. Sharma, 2005: *DravyagunaVijnana*. Vol. 1, Chaukhamba Bharati Academy, 344.
- [12] Balkrishna, A. Srivastava, R.K. Mishra, and S.P. Patel. *Astavarga Plants-Threatened Medicinal Herbs of the North-West Himalaya*. International Journal of Medicinal and Aromatic Plant. 2012. 2 (4) 661-676.