

# SCREENING OF MADHUMEHAGHNA (ANTI DIABETIC) PLANTS IN VRIHATTRAYEE

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## ABSTRACT

The three texts written by Charak, Sushrut and Vagbhat are considered as Vrihatrayee because of their original contributions to the basic tenants of Ayurveda and innovative uses of plants and medicine. But despite the possibility of exploring efficacious for mulations from among these classics, not much attempts have been made in this direction, due to the fact that now most of them are not in vogue in practice by majority of Ayurvedic physicians. As such, a glossary of plants as described in those texts for the management of prameha including diabetes has been collected which would be useful for studying these drugs from different angles.

## Introduction :

Diabetes mellitus is a major public health problem known to affect more than 20 million people in the world. It poses a great risk as far as the morbidity & mortality through early arteriosclerosis, obesity and hypertension is concerned. In many, it may remain undiagnosed. It contributes significantly to prolonged ill health and premature death. The disease is rapidly developing into a major health hazard in our country with the changed life styles and high paced civilization, the disease is affecting the average Indian at quite younger age. The causes of diabetes are often unknown. Obesity is a major associated disorder with diabetes. Extensive research on the relationship of obesity to diabetes, on it's cause and / or methods of prevention and treatment are all relevant in the context of diabetes. Further more, diabetes is a major

cause of disability through its complications of retinopathy, nephropathy, neuropathy and diseases of the larger blood vessels, which may lead to blindness, kidney failure, coronary thrombosis, gangrene of the lower extremities and amputation occasionally.

Present evidence suggests that some of the complications could be lessened or prevented by improved metabolic control of the disease as well as by general health measures. Major efforts should be directed towards achieving this goal. Although a whole lot of medicines are in usage, the desired effects and results are not forth coming until preventive measures are not taken. Moreover, proved methods of treatment must be developed. Few diabetics are benefitted from renal transplantation and dialysis but inexpensive methods are desperately needed greater availability of the existing methods. For traditional methods

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of treatment for diabetics can be explored to provide inexpensive and effective cure for the disease. Till recently little attention has been paid to the use of traditional medicines and methods in the treatment of diabetes. In many societies the use has been made of plants and plant extracts with varying results. A methodical investigation into the effects of these remedies is required to determine their possible role in the therapeutics of diabetes. More emphasis should be placed on finding the drug that can increase the insulin sensitivities of peripheral insulin receptors. Particular areas where further knowledge could lead to improvement in diabetes care include mechanism of insulin secretion mechanism of insulin action and resistance, mechanism of glucose homeostasis, and mechanism of insulin receptor interactions and their modifications by Ayurvedic drugs. Extracts, powders, pastes and decoctions were tried in view of

their hypoglycemic and hypocholesterolemic activities for centuries in the traditional system of medicine in India. They are considered to be effective without possible toxicity Ayurveda has vast potential but only few parts have been explored by modern methods. These can be tried in humans directly according to modern methods. The suffering diabetic patients are in need of drugs and nature has provided such drugs as plant materials. Vrihatrayee, the age old treatises have elaborated the use of many plants in prameha & madhumeha, out of which few have been tried and some are still to be experimented in different conditions of diabetes. It is for the clinicians, chemists, pharmacologists to explore the plant health by modern methods for the sufferers of mankind. Keeping the above facts in mind, a glossary has been sorted out from Vrihatrayee as follows :-

LIST OF DRUGS

S.No.	Name of the Plant / drug	Charaka	Sushruta	Vagbhatta	Latin Name	Family.
1.	Atasi	✓	✓	✗	<i>Linum usitatissimum</i>	<u>Linaceae.</u>
2.	Amalaki	✓	✓	✓	<i>Emblica officinalis</i> Gaertn.	<u>Euphorbiaceae</u>
3.	Arjun	✓	✓	✓	<i>Terminalia arjuna</i> Roxb.	<u>Combretaceae</u>
4.	Aguru	✓	✓	✓	<i>Aquilaria agollocha</i> Roxb.	<u>Thymelaceae</u>
5.	Arani	✓	✓	✗	<i>Premna mucronata</i> Roxb.	<u>Verbenaceae</u>
6.	Aswattha	✓	✗	✗	<i>Ficus religiosa</i> Linn.	<u>Moraceae</u>
7.	Asana	✓	✗	✗	<i>Pterocarpus marsupium</i> Roxb.	<u>Leguminosae</u>
8.	Asmantak	✓	✓	✓	<i>Bergenia ligulata</i>	<u>Saxifragaceae</u>
9.	Atibisha	✓	✗	✓	<i>Aconitum heterophyllum</i> Wall.	<u>Ranunculaceae</u>
10.	Amratak	✓	✓	✗	<i>Cardia dichotoma</i> Forst.	<u>Boraginaceae</u>
11.	Aristha	✗	✗	✓	<i>Azadirachta indica</i>	<u>Meliaceae</u>
12.	Arka	✗	✗	✓	<i>Calotropis procera</i> R.Br.	<u>Asclepiadaceae</u>
13.	Aragvadha	✗	✓	✓	<i>Cassia fistula</i> Linn.	<u>Leguminosae</u>
14.	Amra	✗	✓	✗	<i>Mangifera indica</i> Linn.	<u>Anacardiaceae</u>
15.	Aralu	✗	✓	✗	<i>Alianthus excelsa</i> Roxb.	<u>Simaraoubaceae</u>
16.	Ajakarna	✗	✓	✗	<i>Terminalia alata</i> Heyne.	<u>Dipterocarpeae</u>
17.	Anantmool	✗	✓	✓	<i>Hermidesmus indicus</i> R.br.	<u>Asclepiadaceae</u>
18.	Bhargi	✓	✓	✓	<i>Clerodendrum serratum</i> Linn.	<u>Verbenaceae</u>
19.	Bhallatak	✓	✓	✓	<i>Semicarpus anacardium</i> Linn.	<u>Anacardiaceae</u>
20.	Bhu-Kadamba	✗	✗	✗	<i>Mitragyna rotundifolia</i> Roxb.	<u>Rubiaceae</u>
21.	Rakta chandan	✓	✓	✓	<i>Pterocarpus santalinus</i> Linn.	<u>Leguminosae</u>
22.	Chavya	✓	✓	✓	<i>Piper retrofractum</i> Vahl.	<u>Piparaceae</u>
23.	Chandan	✗	✗	✓	<i>Santalum album</i> Linn.	<u>Santalaceae</u>

S.No.	Name of the Plant / drug	Charaka	Sushruta	Vagbhata	Latin Name	Family.
24.	Chiraita	✓	✓	✓	<i>Santalum album</i> Linn.	<u>Gentianaceae</u>
25.	Chitrak	✓	✓	✓	<i>Plumbago zeylanica</i> Linn.	<u>Plumbaginaceae</u>
26.	Charmivrikhya	×	×	×	<i>Betula utilis</i> Don.	<u>Betulaceae</u>
27.	Danti	✓	✓	✓	<i>Baliospermum monanum</i> Willd.	<u>Graminae</u>
28.	Dadima	×	×	×	<i>Punica granatum</i> Linn.	<u>Punicaceae</u>
29.	Daruharidra	×	×	✓	<i>Berberis aristata</i>	<u>Berberidaceae</u>
30.	Devadaru	✓	✓	✓	<i>Cedrus deodara</i> Roxb.	<u>Pinaceae</u>
31.	Dhanwan	✓	×	✓	<i>Crewia tiliae felia</i> Vahl.	<u>Tiliaceae</u>
32.	Dhataki	✓	×	✓	<i>Woodfordia fruticosa</i> , Kurz.	<u>Lytheraceae</u>
33.	Dhaiphool	×	✓	✓	<i>Woodfordia fruticosa</i> , Kurz.	<u>Lytheraceae</u>
34.	Durva	×	✓	×	<i>Cynodon dactylon</i> Pers.	<u>Graminae</u>
35.	Drakhya	×	✓	×	<i>Vitis vinifera</i> Linn.	<u>Vitaceae</u>
36.	Duralabha	×	✓	×	<i>Fagonia cretica</i> Linn.	<u>Zygophyllaceae</u>
37.	Ela	✓	×	✓	<i>Elettaria cardamomum</i> Maton.	<u>Zimbiberaceae</u>
38.	Gokhura	✓	×	✓	<i>Tribulus terrestris</i> Linn.	<u>Zygophyllaceae</u>
39.	Guduchi	✓	✓	✓	<i>Tinospora cordifolia</i> Willd.	<u>Menispermaceae</u>
40.	Gopakanta	×	✓	×	<i>Flacourtia ramontchi</i> Herit.	<u>Facourtiaceae</u>
41.	Gambhari	×	✓	×	<i>Gmelina arborea</i> Linn.	<u>Verbenaceae</u>
42.	Gaja Pippali	×	×	✓	<i>Piper longum</i> Linn.	<u>Piperaceae</u>
43.	Gudatwak	×	×	✓	<i>Cinnamomum cassia</i> Blume.	<u>Lauraceae</u>
44.	Haritaki	✓	✓	✓	<i>Terminalia chebula</i> Retz.	<u>Combretaceae</u>
45.	Haridra	✓	✓	✓	<i>Curcuma longa</i> Linn.	<u>Zingeberaceae</u>
46.	Hingu	×	✓	×	<i>Forula narthex</i> Boiss.	<u>Umbelliferae</u>
47.	Indrayan	✓	✓	✓	<i>Cirullus colocythis</i> Schrad.	<u>Cucurbitaceae</u>
48.	Ingudi	✓	✓	×	<i>Balanites aegyptiaca</i> Linn.	<u>Simaroubaceae</u>
49.	Indrajav	×	×	✓	<i>Cassia fistula</i> Linn.	<u>Leguminosae</u>

S.No.	Name of the Plant / drug	Charaka	Sushruta	Vagbhatta	Latin Name	Family.
50.	Jamu	x	✓	✓	<i>Syzygium cumini</i> Linn.	<u>Myrtaceae</u>
51.	Jalvetra	x	✓	✓	<i>Salix tetrasperma</i> Roxb.	<u>Salicaceae</u>
52.	Jalakumbhi	x	✓	x	<i>Pistia stratiotes</i> Linn.	<u>Araceae</u>
53.	Jamani	x	x	✓	<i>Trachyspermum ammi</i> Linn.	<u>Umbelliferae</u>
54.	Jui	x	✓	x	<i>Jasminum officinale</i> Linn.	<u>Oleaceae</u>
55.	Katphala	✓	x	✓	<i>Myrica esculenta</i> Buch.	<u>Myraceae</u>
56.	Kadamba	✓	✓	✓	<i>Anthocephalus indicus</i> Mig.	<u>Rubiaceae</u>
57.	Katankata	✓	x	✓	<i>Berberis aristata</i>	<u>Berberidaceae</u>
58.	Kisuka	✓	✓	✓	<i>Butea monosprma</i>	<u>Leguminosae</u>
59.	Khadira	✓	✓	✓	<i>Acacia catechu</i>	<u>Leguminosae</u>
60.	Kampillak	✓	✓	✓	<i>Holarrhena antidysentrica</i>	<u>Apocyanaceae</u>
61.	Kampillak	✓	✓	✓	<i>Mallotus philippinensis</i> Muell.	<u>Euphorbiaceae</u>
62.	Katuki	✓	✓	✓	<i>Picrorrhiza kurroa</i> Royle.	<u>Scrophulariaceae</u>
63.	Khirini	x	✓	x	<i>Euphorbia nerrifolia</i>	<u>Euphorbiaceae</u>
64.	Kudha	✓	x	x	<i>Saussurea lappa</i>	<u>Compositae</u>
65.	Kusha	✓	✓	x	<i>Kesmostachya bipinnata</i>	<u>Gramineae</u>
66.	Kapitha	✓	✓	✓	<i>Feronia elephantum</i>	<u>Feroneaceae</u>
67.	Kaliyaka	✓	x	✓	<i>Gloriosa superba</i> Linn.	<u>Liliaceae</u>
68.	Kulattha	x	✓	✓	<i>Dolichos biflorus</i> Linn.	<u>Leguminosae</u>
69.	Karanja	x	✓	✓	<i>Pongamia pinnata</i> Pierre.	<u>Leguminosae</u>
70.	Kaseru	x	✓	x	<i>Scirpus grossus</i> Linn.	<u>Cyperaceae</u>
71.	Kharjura	x	✓	x	<i>Phoenix sylvestris</i> Roxb.	<u>Palmae</u>
72.	Kodrava	x	x	✓		
73.	Kustha	x	✓	✓	<i>Saussurea lappa</i> C.B.	<u>Compositae</u>
74.	Kamala	x	✓	x	<i>Nelumbo nucifera</i> Gaertn.	<u>Nymphaeaceae</u>
75.	Kantakari	x	x	✓	<i>Solanum surattense</i> Burn.	<u>Solanaceae</u>

S.No.	Name of the Plant / drug	Charaka	Sushruta	Vagbhata	Latin Name	Family.
76.	Lodhra	✓	✓	✓	<i>Symplocos racemosa</i>	<u>Symplocaceae</u>
77.	Lata karanja	✗	✗	✓	<i>Caesalpinia crista</i> Linn.	<u>leguminosae</u>
78.	Mustak	✓	✓	✓	<i>Cyperus rotundus</i> Linn.	<u>Cyperaceae</u>
79.	Murba	✓	✓	✓	<i>Marsdenia tetraclissa</i> W. & A.	<u>Asclepiadaceae</u>
80.	Maricha	✓	✓	✗	<i>Piper Nigrum</i> Linn.	<u>Piperaceae</u>
81.	Masura	✗	✗	✓		
82.	Mocharasa	✗	✓	✗	<i>Salmalia malabarica</i> Schott.	<u>Bombacaceae</u>
83.	Mudga	✗	✓	✓	<i>Phaseolus mungo</i>	<u>Leguminosae</u>
84.	Manjishtha	✗	✓	✗	<i>Rubia cordifolia</i> Linn.	<u>Rubiaceae</u>
85.	Nakhi	✓	✗	✓	<i>Capparis sepiaria</i> Linn.	<u>Capparidaceae</u>
86.	Nimba	✓	✓	✗	<i>Azadirachta indica</i> Linn.	<u>Meliaceae</u>
87.	Nagakeshar	✓	✓	✓	<i>Mesua ferrea</i> Linn.	<u>Guttiferae</u>
88.	Padma	✓	✗	✗	<i>Nelumbo nucifera</i> Gaertn.	<u>Nyuphaeaceae</u>
89.	Patola	✓	✓	✓	<i>Trichosanthes dioica</i> Roxb.	<u>Cucurbitaceae</u>
90.	Padmaka	✓	✗	✓	<i>Prunus cerasoides</i> D.Don.	<u>Rosaceae</u>
91.	Pippali	✓	✓	✓	<i>Piper longum</i> Linn.	<u>Piperaceae</u>
92.	Puskarmool	✓	✗	✓	<i>Inula racemosa</i>	<u>Compositae</u>
93.	Plava	✓	✓	✗	<i>Cyperus platistilis</i>	<u>Cyperaceae</u>
94.	Puga	✓	✓	✓	<i>Areca catechu</i> Linn.	<u>Palmae</u>
95.	Priyangu	✗	✓	✓	<i>Callicapra macrophylla</i> Vahl.'	<u>Verbenaceae</u>
96.	Parijat	✗	✓	✗	<i>Nyctanthes arbortristis</i> Linn.	<u>Oleaceae</u>
97.	Patha	✗	✓	✓	<i>Cissampelos pariera</i> Linn.	<u>Menispermaceae</u>
98.	Punarnava	✗	✗	✓	<i>Boerhavia diffusa</i> Linn.	<u>Nyctaginaceae</u>
99.	Rohitaka	✓	✓	✓	<i>Techoma undulata</i> D.Don.	<u>Bignoniaceae</u>
100.	Rohisha	✗	✗	✓	<i>Cymbopogon martini</i> Roxb.	<u>Grainaeae</u>
101.	Sarsapa	✓	✓	✓	<i>Brassica compestris</i> Linn.	<u>Cruciferae</u>

S.No.	Name of the Plant / drug	Charaka	Sushruta	Vagbhatta	Latin Name	Family.
102.	Saptaparna	✓	✓	✓	<i>Alstonia scholaris</i> R.br.	<u>Apocyanaceae</u>
103.	Sirisha	✓	✓	✗	<i>Albizzia lebbek</i> Benth.	<u>Leguminosae</u>
104.	Sarja	✓	✗	✓	<i>Veterria indica</i> Linn.	<u>Dipterocarpeae</u>
105.	Sal	✓	✓	✗	<i>Shorea robusta</i> Gaertn.	<u>Dipterocarpeae</u>
106.	Shati	✓	✗	✓	<i>Hedychium spicatum</i> Buch.	<u>Zingiberaceae</u>
107.	Shrungataka	✗	✓	✗	<i>Trapanatans</i> Linn. var.	<u>Trapaceae</u>
108.	Srivestak	✗	✓	✗	<i>Pinus roxburghii</i> Sergent.	<u>Pinaceae</u>
109.	Sunthi	✗	✓	✓	<i>Zingiber officinale</i> Rosc.	<u>Zingiberaceae</u>
110.	Saivala	✗	✓	✗	<i>Ceratophyllum demersum</i> Linn.	<u>Ceratophyllaceae</u>
111.	Somavrikhya	✗	✓	✗	<i>Ephedra geradiana</i> Wall.	<u>Gnetaeae</u>
112.	Sinsapa	✗	✓	✗	<i>Dalbergia sisoo</i> Roxb.	<u>Leguminosae</u>
113.	Simuli	✓	✓	✗	<i>Salmalia malbarica</i> Schott.	<u>Bombacaceae</u>
114.	Swetakhadir	✗	✓	✓	<i>Acalia cateehu</i> Willd.	<u>Menispermaceae</u>
115.	Snuhi	✗	✗	✓	<i>Euphorbia nerifolia</i> linn.	<u>Euphorbiaceae</u>
116.	Tagara	✓	✗	✓	<i>Valeriana wallichii</i> DC.	<u>Valerianaceae</u>
117.	Tila	✓	✗	✓	<i>Sesamum indicum</i> Linn.	<u>Pedaliaceae</u>
118.	Tejpatra	✓	✗	✓	<i>Zanthozylum armatum</i> DC.	<u>Rutaceae</u>
119.	Toubarak	✓	✗	✓	<i>Hydonocarpus laurifolia</i> Demmst.	<u>Flacaurtiaceae</u>
120.	Tinisha	✗	✓	✗	<i>Ougenia oojeinensis</i> Roxb.	<u>Leguminosae</u>
121.	Tinduka	✗	✓	✓	<i>Diospiras peregrina</i> Gaertn.	<u>Ebenaceae</u>
122.	Trayantika	✗	✓	✗	<i>Lawsonia inermis</i> Linn.	<u>Lythraceae</u>
123.	Tunga	✗	✓	✗	<i>Cocosnueifera</i> Linn.	<u>Palmae</u>
124.	Tribrit	✗	✗	✓	<i>Operculina turpethun</i> Linn.	<u>Convolvulaceae</u>
125.	Ushira	✓	✗	✓	<i>Vetiveria zizanioids</i>	<u>Graminae</u>
126.	Utpala	✓	✗	✗	<i>Nymphaea nouchali</i> Burn.	<u>Nyuphaeaceae</u>
127.	Venujav	✓	✗	✓	<i>Banbusa arundinaceae</i> Willd.	<u>Graminae</u>

S.No.	Name of the Plant / drug	Charak	Sushruta	Vagbhata	Latin Name	Family.
128.	Vibhitaka	✓	✓	✓	<i>Terminalia belerica</i> Roxb.	<u>Combretaceae</u>
129.	Vidanga	✓	×	✓	<i>Embelia ribes</i> , Burn.	<u>Myrsinaceae</u>
130.	Vetra	✓	×	×	<i>Salix caprea</i> Linn.	<u>Salicaceae</u>
131.	Vacha	✓	×	✓	<i>Acorus calamus</i>	<u>Araceae</u>
132.	Venujav	×	×	✓	<i>Bambusa arundinaceae</i> Willd.	<u>Graminae</u>
133.	Vadara	×	×	✓	<i>Zizyphus Jujeba</i> Mill.	<u>Rhamnaceae</u>
134.	Varuna	×	×	✓	<i>Crataeva nurvala</i> Buch-Ham.	<u>Capparidaceae</u>
135.	Vikankat	×	✓	×	<i>Erythrina indica</i>	<u>Flacouritiaceae</u>
136.	Vijaya	×	✓	×	<i>Pterocarpus marsupium</i> Roxb.	<u>Leguminosae</u>
137.	Visatinduk	×	✓	×	<i>Strychnos nuxvomica</i> Linn.	<u>Loganiacea</u>
138.	Vrukhyaka	✓	×	×	<i>Wrighti tinctori</i> R.br	<u>Apocynaceae</u>
139.	Yavani	✓	×	×	<i>Trachyspermum amni</i> Linn.	<u>Umbelliferae</u>
140.	Ythika	×	✓	×	<i>Rhinacanthus nasuta</i> Kurz.	<u>Acanthaceae</u>
141.	Yastimadhu	×	✓	×	<i>Glycerrhiza glabra</i> Linn.	<u>Graminae</u>



## CONCLUSION

Since the description of madhumeha (diabetes mellitus) gets its entity separately in the chapter of prameha, which refers to a group of pathological conditions involving the urogenital system ; the drugs indicated as anti prameha are also supposed to possess antidiabetic effect. Further, it is also important to find out which part of a plant possesses antidiabetic effect, as the particular part of plant only may have such potency or may have a better potency than other parts, some of these plants as described in Vrihatrayee have been well-proven as anti-diabetics. Most notable drugs are the Amala (fruit-pulp), Amra (seed-pulp), Chiraita (whole-plant), Jamun (seeds), Haridra (rhizome), Karanja (seeds) etc. As such, all these plants need to be studied individually and in different combinations, so that a potent antidiabetic formulation can be evolved.

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सारांश

## बृहत्त्रयी में मधुमेह नाशक वनस्पतियों की खोज

- जी. सी. नन्द,  
एम. एम. पाढी,  
एन. एन. पाठक,  
के. के. चोपडा

आयुर्वेद के सिद्धान्तों तथा अनेक वनस्पतियों की पहली बार औषधीय प्रयोग करने में मौलिक अवदान हेतु चरक, सुश्रुत तथा वाग्भट द्वारा लिखित शास्त्रों को “बृहत्त्रयी” कहा गया है। परन्तु अधुना इन में वर्णित अधिकांश योग चिकित्सा में प्रचलित न होने के कारण, प्रभावशाली औषधि खोज करने की सम्भावना रहते हुए भी इस दिशा में पर्याप्त चेष्टा नहीं की गई है। एवं इस बात को ध्यान में रखते हुए, इन शास्त्रों में प्रमेह तथा मधुमेह के उपचार के लिये वर्णित द्रव्यों की सूची प्रस्तुत की गई है जिस से इन द्रव्यों का विभिन्न दृष्टि से अध्ययन किया जा सकता है।