

A review on Medhohara Dravyas in Vatadi Varga of Bhavaprakasha Nighantu

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The increasing prevalence of obesity and associated metabolic disorders necessitates the exploration of effective therapeutic interventions. This study examines the Vatadi Varga of Bhavaprakasha Nighantu, focusing on its Medohara Karma. This Varga comprises 43 drugs, primarily big trees, out of which six of them possess Medoharakarma. These six drugs are critically analyzed to understand their pharmacological potential, highlighting their roles in obesity management and lipid metabolism.

Keywords: Medoroga, Bhavaprakasha Nighantu, Vatadi Varga

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Introduction

Bhavaprakasha Nighantu is a significant work of *Ayurveda*, which is considered as one among the "Laghutrayi". The book was previously known as *Haritakyadi Nighantu*, which is written by *Bhavamishra* in the 15-16 century.

The text includes 23 *Varga* (group). *Haritakyadi Varga* is the first group and the last is the *Anekartha Varga*. The *Vatadi Varga* is the sixth *Varga* of this *Nighantu*, which contains forty-three *Dravyas* (Drugs) and most of them are trees. The name of the group, *Vatadi Varga* is based on the first *Dravya* present in the group, *Vata* which is botanically identified as *Ficus benghalensis* L. belonging to the family *Moraceae*. Obesity is now recognized as a major global health issue, significantly contributing to the increasing prevalence of metabolic conditions including diabetes, hypertension, and cardiovascular diseases.[1] In *Ayurveda* the metabolic disorders are grouped under *Medoroga*,

Which includes the disorders caused due to *Medodusti* (Vitiation of *Medas*), like *Astou Ninditani* (Characteristics of eight atypical body constitutions), *Prameha Purvarupa* (Premonitory symptoms of *Prameha*)[2] which are caused due to *Avyayama* (Lack of physical exercise), *Divaswapna* (Day sleep), *Medhyanam Cha Adibhakshanat* (Excessive intake of fatty substances), *Varunyaschadisevanat* (Excessive intake of alcoholic beverages).[3] *Ayurvedic* literature highlights numerous herbs known for their potential in managing these conditions.

Methodology

Forty-three drugs under *Vatadivarga* of *Bhavaprakasha Nighantu* were reviewed for their *Medohara Karma* (Antihyperlipidemic activity). In addition to *Bhavaprakash Nighantu*, other relevant *Ayurvedic* & contemporary text, research journals & online sources were thoroughly explored to gather comprehensive information on topic.

Table 1: Pharmacodynamics of Mehahara Dravyas of Vatadi Varga[4,5]

SN	Name of the drug	Botanical Name	Part used	Rasa	Veerya	Dosha Karma
1.	Panchavalkala -	Bark of 5 Kshrivruksha	Twak	Kashaya	Sheeta	Pitta Kapha Hara
	a. Nyagrodha	<i>Ficus benghalensis</i> L.				
	b. Udumbara	<i>Ficus racemosa</i> L.				
	c. Aswattha	<i>Ficus religiosa</i> L.				
	d. Parisa	<i>Thespesia populnea</i> Sol. ex Correa				
e. Plaksa	<i>Ficus virens</i> Aiton.					
2.	Arjuna	<i>Terminalia arjuna</i> W & A	Twak	Kashaya	Sheeta	Kapha Pitta Hara
3.	Khadira	<i>Acacia catechu</i> Willd	Saara	Tiktha Kashaya	Sheeta	Pitta Hara
4.	Bhurjapathra	<i>Betula utilis</i> D, Don	Pathra	Kashaya	-	Kapha Pitta Hara
5.	Kuta Shalmali	<i>Ceiba pentandra</i> Linn	Niryasa, Komala Patra	Tiktha Katu	Ushna	Kapha Vata Hara
6.	Moksha	<i>Schrebera swietenoides</i> Roxb	Moola	Katu Tiktha	Ushna	Kapha Vata Hara

Discussion

Among the 43 Drugs mentioned under this *Varga* six of them gave the direct reference of *Medohara Karma* (Antihyperlipidemic activity). Here most of the drugs possess *Kashaya* (astringent) *Rasa*, *Sheeta* (cold) or *Ushna* (hot) *Veerya*. Also, most of them are *Kapha Pitta Shamaka*. *Kashaya Rasa* has *Soshana* (Dries up), *Sarirakledopayuktha* (Absorbs the fluid), *Lekhana* (Scrapes out) *Karma*.[6] The *Ushna Veerya* has *Pachana* (Digests) *Swedana* (Induce sweating) etc. *Karma*, which will help to attain the *Medohara Karma*, hence useful in various lipid and metabolic disorders.

Panchavalkala

Pancha Valkala are also known as *Pancha Ksheeri Vrikshas*, which are the barks of five trees - *Nyagrodha* (*Ficus benghalensis* L.), *Udumbara* (*Ficus racemosa* L.), *Ashwatha* (*Ficus religiosa* L.), *Plaksha* (*Ficus virens* Aiton) and *Parisha* (*Thespesia populnea* (L.) Sol.ex Correa). These drugs are described as *Kapha Medohara* and possess *Lekhana* (scraping) action, making them suitable for treating disorders related to *Medo Dhatu* (fat tissue).[7] Flavonoids, saponins, tannins, and polyphenols which are present in the *Panchavalkala* helps to attain antihyperlipidemic activity.[8]

A previous study was conducted to evaluate the antihyperlipidemic effect (*Lekhana Karma*) of *Panchavalkala* bark extracts, both individually and in combination (in equal parts), using ethanol and water extracts on blood lipid levels in rats with a high-fat diet (HFD)-induced hyperlipidemia over a 30-day period. When administered orally at a dose of 200 mg/kg body weight, the *Panchavalkala* extracts (both ethanolic and aqueous) effectively reduced weight gain, blood sugar, and lipid levels caused by the high-fat diet, showing significant improvement compared to the diet-only group. These results suggest that *Panchavalkala* bark extracts have notable antihyperlipidemic properties and may be beneficial in treating high cholesterol. [9]

The pancreatic lipase inhibition activity was tested invitro for aqueous and ethanolic extracts of *Panchavalkala* both individually and in combination (in equal parts), with Orlistat as the standard synthetic drug and caffeine as a natural positive control. The results showed that the individual and combined extracts significantly inhibited pancreatic lipase, except for the ethanolic extract of *Parisha*. These findings suggest that both the combined and individual extracts may help in treating hyperlipidemia and obesity by inhibiting pancreatic lipase. [10]

Arjuna

Arjuna is described as *Kapha Medohara*. [11] The antihyperlipidemic activity of this drug is due to the presence of phytoconstituents like Flavanoids, Alkaloids, Tannins present in the drug [12] The petroleum ether (A), solvent ether (B), ethanol (C), and water (D) extracts of *Terminalia arjuna* were tested for their ability to reduce the lipid levels in the body. These extracts were evaluated using two models: rats with high fat levels induced by Triton WR-1339 and hamsters fed a high-fat, fructose-rich diet to simulate diabetes and high cholesterol. After administering 250 mg/kg of each extract orally, only the ethanol extract (C) significantly reduced fat levels in the rats by lowering plasma cholesterol, triglycerides, and phospholipids. In the hamster model, both the solvent ether extract (B) and ethanol extract (C) were effective in reducing fat and glucose levels. In the in vitro experiment, the extracts (at concentrations of 50–500 µg/ml) prevented oxidative damage to fats in human LDL and rat liver cells caused by metal ions.

Among the fractions, the ethanol extract (C) was the most effective, followed by the solvent ether extract (B) and petroleum ether extract (A), showing that *T. arjuna* has strong potential as both an antioxidant and a lipid-lowering agent. [13] Diet-induced hyperlipidemic rabbits were given 50% ethanolic extract of *Terminalia Arjunatree* bark at doses of 100 mg/kg and 500 mg/kg and their results were compared with a control group. After 60 days of intervention, it was found that the extract did not adversely affect biochemical tests of liver and renal function and haematological parameters. [14]

Khadira

Khadira is described as *Kapha Medagna*. [15] Also the flavonoids present in the drugs like Catechin, Epicatechin, Kaempferol etc. has lipid lowering effects. [16,17] The ethanolic extract of *Areca catechu* hardwood exhibited significant anti-dyslipidemic effects in Syrian golden hamsters fed a high-fat diet (HFD). This was demonstrated by a reduction of approximately 43% in serum triglyceride levels and 26% in total cholesterol levels. [18] The antihyperlipidemic effects of the hydroethanolic extract of *Acacia catechu* (Lf) Wild leaves was evaluated using streptozotocin (STZ)-induced diabetic rat model. The extract was administered orally at doses of 200 mg/kg and 400 mg/kg for 30 days. Lipid profile parameters such as total cholesterol, triglycerides, low-density lipoprotein (LDL), very low-density lipoprotein (VLDL), and high-density lipoprotein (HDL) were measured. The treatment significantly reduced cholesterol, triglycerides, LDL, and VLDL levels, while increasing HDL levels. These findings indicate that the extract has strong antihyperlipidemic properties and may be useful for managing lipid disorders associated with diabetes. [19]

Bhurjapathra

Bhurjapathra is described as *Shelshmamedohara*. [20] The phenolic compounds like Betulinic acid, Betulin etc, Flavanoids like Quercetin, Terpenoids present in the drug helps to attain the antihyperlipidemic activity. [21] The anti-obesity effects pertaining to *Betula utilis* (BU) ethanolic extract in high-fat diet (HFD) induced obesity and hyperlipidemic rat model was evaluated in the male rats by administering HFD for 10 weeks and found that the drug BU supplementation decreases body weight,

Improves obesity serum biomarkers (TG, TC, LDL), and the weight reducing activity of BU may be mediated by decreased fat absorption from the GIT. [22] The anti-obesity activity of *Betula utilis* bark was evaluated against Cafeteria diet Induced obesity in rats. Albino rats were fed a cafeteria diet along with a normal diet for 28 days, with orlistat serving as the standard drug for comparison. The results showed that the bark extract had a dose-dependent anti-obesity effect, reducing triglycerides, total cholesterol, LDL-C, VLDL-C, liver triglycerides and increased of serum HDL-C, locomotors activity in cafeteria diet induced obesity model rats. Body weight, liver weight and food intake also decreased. The 200 mg/kg dose showed more significant effects than the 100 mg/kg dose, and suggest that the ethanolic bark extract of *Betula utilis* effectively inhibits obesity caused by a cafeteria diet in rats.[23]

Kuta Shalmali

Kuta Shalmali is described as *Kapha-Vatanuth* and *Medapaha*[24] The compounds present in the drug like, flavonoids, Phenolic compounds, saponins, Triterpenoids helps to achieve the antihyperlipidemic activity.[25] The antidyslipidemic effects of the methanol extract of *Ceiba pentandra* stem bark, which contains bioactive compounds like 8-formyl-7-hydroxy-5-isopropyl-2-methoxy-3-methyl-1,4-naphthaquinone, were evaluated in male Wistar rats. The rats were injected with Monosodium Glutamate (4 mg/g/day) to induce cardiometabolic syndrome and subsequently treated with atorvastatin (80 mg/kg/day) and the methanol extract of *Ceiba pentandra* (75 and 150 mg/kg/day) for 28 days. The treatment significantly improved the lipid profile by reducing total cholesterol, triglycerides, and LDL levels while also decreasing body weight, blood pressure, and adipocyte size. These findings suggest that the extract may be an effective option for managing dyslipidemia associated with cardiometabolic syndrome.[26]

Conclusion

The analysis of the six *Dravyas* under this *Varga* highlights their potential in managing lipid-related disorders through their *Medohara Karma*. Most of these drugs exhibit *Kashaya* (astringent) *Rasa*, *Sheeta* (cold) or *Ushna* (hot) *Veerya*, and *Katu Vipaka*,

Which collectively contribute to their ability to balance *Kapha* and *Pitta Doshas*, reduce fat accumulation, and improve lipid metabolism. Furthermore, the presence of bioactive compounds such as flavonoids, tannins, alkaloids, and saponins enhances their antihyperlipidemic properties, as demonstrated by several in vitro and in vivo studies. These findings suggest that Ayurvedic herbs, including *Panchavalkala*, *Arjuna*, *Khadira*, and others, have significant therapeutic potential in the management of obesity, hyperlipidemia, and associated metabolic disorders. However, further clinical research is recommended to validate their efficacy and explore optimal dosage for human applications.

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