

Avartaki (*Cassia Auriculata Linn*) – A Review Article

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ABSTRACT

India has about 45000 plant species of which several thousands have been claimed to possess medicinal properties. In many countries traditional medicine forms an integral part of health care system. The knowledge of traditional medicine is very important for the new research work. Systematic documentation is lacking for many medicinal plants in India. One such plant is Avartaki (*Cassia auriculata Linn*) is described in Nighantus. Avartaki possess the hypoglycaemic, anti inflammatory, antioxidant, antihelminthic, antibacterial activity. More research is needed on this drug to evaluate the pharmacological activities of this drug. This review article deals with Historical review, Vernacular names, synonyms, ayurvedic properties, cultivation and harvesting, research works and therapeutic uses of Avartaki.

KEYWORDS: Avartaki, *Cassia auriculata Linn*, hypoglycaemic

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INTRODUCTION:

In the 21st century, use of herbal medicines are widely used due to their safety, efficacy, and lesser adverse effects. Now a day's plants have been used with varying success to relieve and prevent diseases all the time. According to WHO 80% of the world population depends on traditional medicine for health care needs.¹

Cassia auriculata belonging to Caesalpiniaceae (Fabaceae) is common plant in India, widely used in Ayurveda medicine as a tonic and remedy for diabetes. *Cassia auriculata Linn* commonly known as Tanner's cassia, also known as "Vilayati Tarvad" in Marathi. The plant has been reported to antibacterial, hypoglycemic and microbicidal activity The shrub is especially famous for its attractive yellow flower which used for the treatment of skin disorders and body odor²

CLASSICAL REVIEW OF AVARTAKI

The word meaning of Avartaki is that which improves the complexion or glow of the body. *Avartaki – Avarta ev kayti prakashate* /³ And another meaning of Avarta is one which borne repeatedly

Vedic period and Samhita period - In Vedas and Samhita there is no mention of Avartaki

Samgraha period First time Acharya Vagbhata the author of Asthanga hridaya mentioned Avartaki.

Nighantu kala

Dhanwantari Nighantu was written in 11th cent. All the drugs in this Nighantu are described in 11 Vargas. Synonym, property and action etc of Avartaki are described in Guduchyadi varga. Madanapala Nighantu was written in 14th cent. And its subjects are divided under 13 Vargas. Here Avartaki is described in Abhyadi varga. In the same century Kaiyadeva Nighantu or Pathapathya Nighantu was formed. It is divided into 8 Vargas. This Nighantu also describes the properties of Avartaki in Aoushadhi varga. Raja Nighantu (Abhidhanachudamani) divided in 23 Vargas. Here the introduction, properties of Avartaki fall in the Guduchyadi varga.

VERNACULAR NAMES⁴

Sanskrit	– Avartaki, Charmarang, Pitpuspha
English	– Tanners cassia, Tanner's Senna Mature tea tree
Hindi	– Taroda, Tarval, Tarvar, Tarwal
Gujrati	– Awal
Kannada	– Tangedu, Taravadagida
Malyalam	– Aviram, Avara, jimute, ponnnaviram,
Tamil	– Avarai, Avirai, Sadurguli, Semmalai, Summai.

Telgu	- Tangedu, Tengera,
Cutch	- Awala
Bengali Duk	- Tarvar, Sonamukhi
Konkani	- Bhagatvalli
Marathi	- Taravada
Sinhalese	- Rana- vara
Berar	- Tarota
Burma	- Peikthingals
Canarese	-Avarike, Olletangedi, Sakusina, Tangidi,
Ceylon	- Matara tea
Chinese	-Kiang mang, Kaing, Mangkiue min

CLASSIFICATION**Table 1 Classification according to different Nighantus.**

Nighantu	Varga
Dhanwantari Nighantu ⁵	Guduchyadi varga
Madanpal Nighantu ⁶	Abhyadi varga
Kaideao Nighantu ⁷	Oushadhi varga
Raj Nighantu ⁸	Guduchyadi varga
Aadarsha Nighantu ⁹	Putikaranjadi varga

SYNONYMS**Table2 Synonyms according to different Nighantus**

SYNONYM	D.N ⁵	M.N ⁶	K.N ⁷	R.N ⁸	AVK ¹⁰	SKD ¹¹	DGV.1 ¹²	A.N ¹³	DGV.2 ¹⁴
Aavrtaki	+	+	+	+	-	+	+	+	+
Aahulyam	-	-	-	-	-	-	-	+	-
Charmaranga	+	+	+	+	+	+	+	+	+
Charmaranjan karini	-	-	-	-	+	-	-	-	-
Tindukini	+	-	-	+	+	+	-	-	-
Tilpushpika	-	+	-	-	-	-	-	-	-
Pitkalika	-	-	-	-	-	-	-	+	-
Pitkilaka	+	-	-	-	-	-	-	-	-
Pitakila	-	-	-	+	+	+	-	-	+
Pitakilaka-Yukta	-	-	-	-	-	-	+	-	-
Pitapushapa	+	-	-	-	-	-	+	-	-
Manodhnya	-	-	-	+	+	+	-	-	-
Mahatali	-	-	-	-	+	+	-	-	-
Mahadadijali	-	-	-	+	-	-	-	-	-
Mahajalnika	-	+	+	-	-	-	-	-	-
Mahajali	+	-	-	-	+	-	-	-	-
Rangakara	-	-	-	-	-	-	-	-	-
Raktapush-Pika	-	+	-	+	-	-	-	-	-
Raktapushpi	-	-	+	+	+	+	-	-	-
Rakshulata	-	-	-	+	+	+	-	-	-
Vamavisha-Nika	-	-	-	-	-	+	-	-	-
Vamavarta	-	-	-	+	-	-	-	-	-
Vindukini	-	+	+	-	-	-	-	-	-
Vibhandi	+	+	+	+	+	+	-	+	-
Vishanika	-	-	-	+	+	+	-	-	-
Vishanakara	-	-	-	-	-	-	-	-	-

PROBABLE INTERPRETATION OF SYNONYMS

Interpretation of some important synonyms according to their derivations is given below

Aavrtaki - Which increase the complexion or glow of the body or which born repeatedly.

Aahulyam - Which spread on the ground.

Charmaranga, Charmaranjankarini, Rangakara - Which used to stained the leather

Mahatali, Mahadajalini, Marutali, Mahajalinika - The herb which spread like a net on the earth

Pitkala, Pitpushpa, Pitkalika, Pitkla, Pitkalikyukta- Flowers are yellow in colour

Raktapuspi, Raktapushpika - Flowers are red in colour

TAXONOMY¹⁵

Systemic position

Kingdom	- Plantae
Subkingdom	- Tracheobionta
Super division	- Spermatophyta
Division	- Magnoliophyta
Class	- Magnoliopsida
Sub-class	- Rosidae
Order	- Fabales
Family	- Fabaceae
Genus	- <i>Cassia</i>
Species	- <i>auriculata</i>

DISTRUBUTION AND HABITAT¹⁶

The shrub occurs on roadside, wastelands, and railway embankments. It is plentiful in the drier districts of Andhra Pradesh, Karnataka, and Tamilnadu found in the dry zones of Southern, Western and central India extending up to Rajasthan in the North; also cultivated in some parts of Punjab, Haryana, Uttar Pradesh and West Bengal and often planted in garden for ornament and as hedges.

HABIT AND GENERAL FEATURE¹⁶

A fast growing, profusely branched, tall evergreen shrub, generally 1.2- 3 m height, sometimes reaching up to height of 6 m.(fig.1)

EXTERNAL MORPHOLOGY¹⁷

Leaves

Leaves nearly sessile, approximate 3-4 inch long rachis grooved, pubisient, furnished with a single linear gland between the leaflets of each pair, stipules broad, leafy persistent, their inner bases with filiform points.

Leaflets 8-12 pairs $\frac{3}{4}$ -1 inch long, very shortly petioled or almost sessile, more or less glabrous, slightly overlapping obovate-oblong obtuse or emarginated, mucronate, rigidly sub coriaceous, downy.

Inflorescence

Inflorescence Racemes axillary, nearly as long as the leaves, many flowered approximated toward the end of the branches. (fig.2)

Flower

Flowers large, yellowish about an inch long, shortly pubescent, pedicels forming long peduncled shortly pubescent bracted few flowers raceme in the axis of the leaves, bracts leafy, ovate to obovate, lanceolate, acuminate, 3-4 inch long, long persistent, calyx glabrous or nearly so, the sepals cilioate, petals-obovate, rounded, shortly clawed, nearly an inch long, filament glabrous, overy shortly appressed pubescent, stamens 10

Fruits

Pods pale brown, oblong, 5.5 cm x 1.2-1.8 cm linear oblong at the base in a short stalk, terminating in a long filiform style, very flat, shortly and rather thinly pubescent.(fig.3)

Seeds

Dark brown in colour compressed, tapering towards the base. 6-12 seed per pod. (fig.4)

Avartaki (*Cassia auriculata* Linn)

Habit



Fig. 1

Inflorescence



Fig. 2

Fruit



Fig. 3

Seeds



Fig. 4

PROPERTIES OF AVARTAKI

Table 3 Properties of Avartaki

		D.N ⁵	R.N ⁸	K.N ⁷	DGV.1 ¹²	DGV.2 ¹⁴	A.N ⁹	AON ¹⁸	V.P ¹⁹
Rasa	Kashaya	+	+	-	+	+	-	+	+
	Tiktha	-	-	+	+	+	+	+	
	Amla		+		-	-	-	+	+
Guna	Sara	-	-	+	-	-	-	-	
	Guru	-	-	+	-	-	-	-	-
	Laghu	-	-	-	-	+	-	-	-
	Ruksha	-	-	-	-	+	-	-	-
Veerya	Seetha	+	+		+	+	-	+	+
Vipaka	Madhura	-	-		-	-	-	-	-
	Amla	-	-		-	-	-	-	-
	Katu	-	-		-	+	-	-	-

PROPERTIES

Rasa - Almost all the Acharya given Kashaya and Tiktha rasa for this plant But Raj Nighantu has given Amla rasa.

Guna- In Kaiyadeva Nighantu Sara and Guru gunas given to this plant. P.V.Sharma and Yadavaji Trikamji Acharya has given Laghu and Ruksha guna.

Veerya - There is no difference in opinion about its Seetha veerya.

Vipaka - There is no classical reference about vipaka. P.V.Sharma given Katu vipaka. And according to general rule Kashaya and Tiktha rasa possess Katu vipaka.

KARMAM (ACTION)

By virtue of their gunas, rasa and veerya the dravya performs certain actions on the body. Different karmas performed by Avartaki as mentioned by various authors are enlisted below.

Table 4 Different action of Avartaki

KARMA	D.N ⁵	K.N ⁷	R.N ⁸	A.N ⁹	SKD ¹¹	DGV.1 ¹²	DGV. 2 ¹⁴
Kushtaghna	+	-	-	-	-	-	-
Urdhwa- Adha Doshanashak	+	-	-	-	-	-	-
Vrishya	+	-	-	-	-	-	-
Tridoshghana	+	-	-	-	-	-	-
Atisarjit	+	-	-	-	-	-	-
Shophahar	+	+	-	-	-	-	-
Gulmahar	+	+	-	-	-	-	-
Udararog	+	+	-	-	-	-	-
Aanaha	+	+	-	-	-	-	-
Krimighana	+	+	-	+	-	-	+
Kapha-pittanashak		+	-	-	-	-	+
Trishnahar	-	+	-	-	-	-	-
Kandughna	-	+	-	+	-	+	-
Vishapaha	-	+	-	-	-	-	-

Vamihar	-	+	-	-	-	-	-
Shwashar	-	+	-	+	-	-	-
Dahashamak	-	+	-	-	-	-	-
Stravghna	-	+	-	+	-	-	-
Jwaranashak	-	+	-	-	-	-	-
Pramehanashak	-	+	-	+	-	+	-
Swarnavarnapad	-	+	-	+	-	-	-
Raktatisarjit	-	+	-	+	-	-	-
Raktapittanashak	-	+	-	+	-	-	-
Shukravridhikar	-	+	-	+	-	-	-
Chakshughana	-	+	-	+	-	+	-
Pittadahjit	-	+	-	+	-	-	-
Mukharog	-	+	-	-	-	+	-
kushtaghana	-	+	+	-	-	+	+
Shulahrit	-	+	-	-	-	+	-
Vranaropan	-	+	-	-	-	+	-
Grahanihar	-	+	-	-	-	+	-
Stambhaka	-	+	-	-	-	-	+
Raktastambhaka	-	+	-	-	-	-	+
Mutra samgrahaniya	-	+	-	-	-	-	+
Shukra stambhaka	-	+	-	-	-	-	+
Pavanprakopi	-	+	-	-	-	-	-
Pravahika	-	+	-	-	-	-	-
Vatavikar	-	+	-	-	-	-	-
Charmarog	-	+	-	-	-	-	-
Poushtika	-	+	-	-	-	-	-
Pittaharina	-	+	+	+	-	-	-
Jantughana	-	+	-	+	+	-	-

USEFUL PARTS³³

Root
Flowers
Seeds

DOSAGES²¹

Twak quath – 50 -100 ml
Puspa swaras – 10-20 ml
Beeja churna – 3-6 gram

COLLECTION²²

Flower- Oct.- Nov.-Dec.
Fruit – February- March

CHEMICAL CONSTITUENTS

Leaves contain keto-alchols besides emodin β , β -sitosterolandrutin. Nonacosane, nonacosane-6-one, chrysophanol, emodin and rubiadin have been isolated from the shell of the pod.

Flowers contain auricassadin, kaempferol and β -sistostral²³
Barks contain 20 % catechol type of tannin and (-) auriculacidin, rutin, polyphenol oxidase and ascorbic acid oxidase. The young bark yields 22.3% of aqueous extract, and 24.8 % of alcohol extract, in the former was estimated 11.9 % of tannin and in the later 14.2 %. The tannin gives greenish precipitate with ferric salts. The bark contained 7.3 % of moisture and 4.1 % of the ash.²⁴

Barks gives a valuble tannin, it is one of the best tannin Bark contains 15.2 – 19.1 % Tannin.²⁵

A polysaccharide from the seed on partial hydrolysis yielded a mixture of two disaccharides, two trisaccharides and one tetrasaccharide. A water soluble galactomannan from seeds

furnished β -D mannopyranosyl-(1 \rightarrow 4) 0- β -D-mannopyrrose, α -D-galactopyranosyl-(1 \rightarrow 6)-0- α -D-mannopyranose and (1 \rightarrow 4) 0- β -D-mannopyrrose by partial acid hydrolysis.

The stem bark afforded the dimericprocyanidins, fisetinidol (4 \rightarrow 8'')-catechin, fisetinidol (4 \rightarrow 8'')-epicatechin, fisetinidol (4 \rightarrow 8'')-galloatechin, fisetinidol (4 \rightarrow 8'')-epigallocatechin

The heartwood contains an anthocyanidin glycoside, pelargonidin-5-0- β -D galctoside²⁶

THERAPEUTIC USES

Avartaki Ghrutha³² – This is the only one classical reference of Avartaki explained in Asthang hridaya. Prepared by the root of this plant. This should be consumed with interval of one day followed by eating mess of kodrava along with unprocessed kanjika. This cured leprosy, lecoderma, and goiter. It also increase intellenge and memory.

A decotion of flowers and flower bud is an excellent remedy for diabetes, they are also used as pessaries to check an excessive menstrual flow.

An infusion of the leaves used as a cooling drink. The bark is highly astringent; it is a valuable substitute for tannic acid. It is also used as an alternative.

Decorticated seeds in fine powder or paste are valued for local applications to purulent ophthalmia or conjunctivitis known as "Country sore eye" seeds with their testas and their kernels are finely powdered and blown into the eyes or the powder mixed with coconut or gingelly oil is applied to sore eyes. Seeds are also use in diabeties and chylous urine.

The plant is used in the form of powder mixed with honey or the decoction, especially of flower buds, is administered in chylous urine and diabetes with excellent results. Twigs are used as tooth brushes in the south of Ceylon leaves are used as a substitute for tea. Coffee made from powdered seeds or leaves is good substitute for *Coffea arabica* and is usefully prescribed in giddiness due to heart disease.²⁷

Flowers useful in urinary diseases, nocturnal emissory, diabetes and throat infection and considered aid ful for promoting body colour or complexion.²⁸

Dr. Krikpatrick (Cat. Of Mysore drugs) bring to notice the astringent properties of the bark, and speaks favourably of the use of the eyes in chronic purulent conjunctivitis.²⁹

Bark astringent used by the natives to tan and dye leather of buff colour. Workers in iron employ the root in teppering iron with steel³⁰

The Leaves infusion acts as a cooling drink, and the paste with water and the seeds of *Phaseolus radiates* and poppy seed they are applied to hepatic eruption.

The leaves and flower juice with triphala churna are used for the treatment of diabetes. Root bark decoction used in hydrocele. In cholera, ajeerna, shula, vomiting, atisara like diseases the root bark is chewed with salt and juice is taken in as cure. In injuries sprains lepa of Avartaki, swarjika, tamarind leaves is very commonly used.³¹

CULTIVATION⁷

➤ Soil and climate

It prefers red, gravelly, well- drained and lime rich soil; It grows on a variety of other soils also including the black cotton and the latinte near the seacoast, as it is not very exacting in its requirements although on water logged ground, the seedings are apt to lot.

➤ Natural Regeneration

The seeds germinate in plenty even on poor; shallow soils with mearge rainfall. Since the plant is very hardy and coppices well, it survives even when heavily cut and for bark and for leaf-manure.

➤ Artificial regeneration

The plant is frequently been grown various parts of India forits bark for plantation, stiff, waterlogged or alkaline soil and forestry localities should be avoided, Care being taken to select open places with light, porous, and not too moist soils. Ploughing the land before sowing is advantageous. Direct sowing have been much better results than transplanting. Sowing may be done either broadcast or in lines at aspacing of a 0.9 -1.2 cm for an optimum density. The latter is economical and preferable as it facilitates weeding, thinning or gap filling and interculturing. The seedlings should be thinned out during the first season where necessary, weeding and inter culturing through always not essential, Stumulative growth irrigation is generally not necessary but flooding once a month, during day season, particularly in acid zone, increase the height.

HARVESTING³³

The ripe pods are directly harvested by hand during jan-june from the first year onwards, it bears viable seeds plenty. The

plants for ready for harvesting in 2-3 years depending upon the growth and local factors. The collection of bark generally takes place from October to june. In Tamilnadu, Andhra Pradesh the bark is usullay collected on a three year rotation. Since the coppice system is simple. It is invariably adopted for harvesting bark.

CONTROVERSIES

Controversies in the identification of some drugs arise, since Acharya had used synonyms which may indicate more than one drug with different botanical identity. Interpretation of synonyms and identification by various commentators also create confusion about the exact identity of the drug. In traditional literature like Atharva Veda and classical texts we can find the mention of "Vishanika" whose synonyms given in Nighantus as Aavrtaki. Different synonyms have given by different authors for Vishanika as follow.

In Vedic literature amongst the description of medicinal plants there is a mention of Vishanika. Charaka, Susrutha etc. Mentioned Vishanika. In Charaka samhitas 3 places Cha.su. 1/78, Ch.chi. 30/273, Cha.chi. 13/64. Susruthasamhita -3 places Su.su.36/4. Su.chi. 18/48, Su.chi.31/5 and in Asthang hridaya 3 places A.H. su.15/21, A.H.chi.15/205, A.H. ut.32/67 have mentioned of Vishanika.

According to the text above Vishanika has been used as potent medicinal drug from Vedic period to Samhita period. But the critics of the classical text have given various synonyms for this drug. Acharya Chakrapanidatta says it as Avartani. In the reference of Cha.su.1/78 while mentioning mulini dravya given the meaning of Vishanika as Avartani. Acharya Dalhana in the critical analysis of Susrutha Samhitas at two places has mentioned it as "Meshashringi" and "Avartani" for Vishanika.

The critics of Ashtang hridaya, Acharya Arundatta has called it as "Ajashringi" in one context in mukharogadhikara Vishanika is called as "Avartani"

According to the above text it is clear that the drug called Vishanika was correctly known and used up to Samhita period. But from the time of crtical literature this drug encountered controversy because of the various considerations made by the critics.

After a thorough understanding of the classics it is realised that Vishanika is not similar to "Avartaki". This is some other drug or synonyms of some plants. Because Acharya Charaka in Sutrasthana first adhyaya telling about sodasa Moolini dravyas has mentioned Vishanika. Where he has told that Vishanika have purgative property. Similarly Acharya Susrutha also agrees with Acharya Charaka justifying his view. He states that Vishanika has purgative action. Raja Nighantu has told this drug has Antidiarrhoeal properties and it is also observed in patients that Avartaki has pacificatory action on the peristaltic movements of the intestine. So it is clear that Vishanika the synonyms used in classical text is not Avartaki which is mentioned in Nighantus.

RESEARCH STUDIES ON CASSIA AURICULATA LINN

1) The antibacterial properties of the *Cassia auriculata* were tested against ten human pathogens by using five different solvent namely, hexane, chloroform, ethyl acetate, acetone

and methanol. The maximum antibacterial activity recorded in methanol extracts against *Vibrio cholerae* and *Staphylococcus aureus*. In separation of compounds, ethyl acetate extract were more spots in (TLC) plate.³⁴

2) The qualitative analysis of the extracts from the root and leaf sample of *Cassia auriculata* exhibited the presence of phytochemical constituents such as *anthroquinone, alkaloids, flavonoids, phenolic compounds, saponins, steroids and tannins*³⁵

3) The antimicrobial activity of crude leaf extract of *Aegle marmelos, Chlorisvirgata, Collinsoniaanisata, Feronialimonia* and *Cassia auriculata* were studied in different concentrations (100mg/ml, 200 mg/ml, 300mg/ml) against four pathogenic bacterial strains. Antibacterial potential of leaf extract was assessed in terms of zone of inhibition of bacterial growth. Different concentrations viz., 100, 200, and 300mg/ml of each leaves were used for antimicrobial screening. The antibacterial activity of the extract increased linearly with increase in concentration of extract (mg/ml). The methanol extracts have shown significant antibacterial activity. The results show that among the leaves tested *Cassia auriculata* and *Aegle marmelos* were found to be more effective against all the microbes tested.³⁶

4) Effect of *cassia auriculata* flowers on blood sugar levels, serum and tissue lipids in streptozotocin diabetic rats- in this experimental study *Cassia auriculata* flower extract (CFEt), at doses of 0.15, 0.30 and 0.45 g/kg body weight for 30 days, suppressed the elevated blood glucose and lipid levels in diabetic rats. *Cassia auriculata* at 0.45 g/kg was found to be comparable to glibenclamide.³⁷

5) *Cassia auriculata*: Aspects of Safety Pharmacology and Drug Interaction studies on rats fed with standardized traditional hydro-alcoholic extract and technology-based supercritical extract of *Cassia auriculata* for 12 weeks. This study indicate that both these extracts are pharmacologically safe and did not show any significant adverse reactions at the tested doses. The traditional hydro-alcoholic extract did not show any significant effect on pharmacokinetics; however, the technology-based supercritical extract caused a significant reduction in absorption of metformin³⁸

6) The insulin-receptor-binding effect of *Cassia auriculata* flower extract (CFEt) in streptozotocin induced male wistar rats, using circulating erythrocytes as a model system. The mean specific binding of insulin to erythrocyte receptors was significantly lower in diabetic control rats than in flower extract, glibenclamide treated diabetic rats, resulting in a significant decrease in plasma insulin. Scatchard plot analysis demonstrated that the decrease in insulin binding was accounted for by a lower number of insulin receptor sites per cell in diabetic control rats when compared with CFET treated rats. The results suggest an acute alteration in the number of insulin receptors on ER membranes in streptozotocin-induced diabetic control rats. Treatment with CFET (2.40 ± 0.15) improved specific insulin binding, with receptor number and affinity binding diabetic rats (0.95±0.06). These biochemical observations were supplemented by histopathological examination of pancreas section.³⁹

7) Isozyme diversity in *Cassia auriculata* Linn done on seeds from fourteen different localities were collected all over India and nine enzymes were screened by native polyacrylamide gel electrophoresis (PAGE) technique and thirty-four putative loci were totally detected. Cluster and factor analyses indicated that there are two major distinct groups or clusters, and thus, seeds collected from a few different localities are enough to capture the genetic variation held by this species. Also isozyme analysis is a reliable, efficient and effective marker technology for determining genetic variations in *C.auriculata*.⁴⁰

8) Total ten amino acids were present in the Leaves of *Cassia auriculata* Linn. Among these amino acids the LLeucine, D-Threonine, DL-Isoleucine methionine are essential aminoacids whereas L-Cystine, DL-Alanine, Lproline, Glycine, Hydroxyproline, Aspartic acid, LOrnithrinehydrochloride are non essential amino acids.⁴¹

9) The beneficial effect of Tanner's cassia (*Cassia auriculata* Linn) extract which prevents hemoglobin glycation and tail tendon collagen properties in streptozotocin (STZ) –induced diabetic rats. The effects of an aqueous extract of Tanner's cassia and glybenclamide on plasma glucose, insulin, glycosylated hemoglobin and the collagen properties such as total collagen, extent of glycation, advanced glycation end product (AGE) linked fluorescence, lipid peroxidation (hydroperoxides), neutral salt, acid and pepsin soluble collagen were examined in tail tendon of control and experimental groups. Oral administration of Tanner's cassia (0.45 mg/kg/bw) aqueous extract and glibenclamide to diabetic rats for 45 days significantly reduced blood glucose, glycosylated hemoglobin with increased level of insulin and prevented the abnormalities of tail tendon collagen properties. The results showed that Tanner's cassia extract has antihyperglycaemic properties and prevents the abnormalities of collagen properties in tail tendon of STZ-induced diabetic rats. Tanner's cassia extract administration is more effective than glibenclamide⁴²

CONCLUSION:

From above literature it is concluded that *Cassia auriculata* Linn. is responsible for the various therapeutic potentials especially in diabetics. It contains a number of phytoconstituents and amino acids. More research is needed to isolate the constituents responsible for the biological actions. There are very less clinical trial done on Avartaki. The literatures showed that the plant is very safe and effective for medicinal uses. So from this review of literature, it was concluded that the plant is having high medicinal value.

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