

CHYAVANAPRASAM: AYURVEDIC HEALTH SUPPLEMENT

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Abstract

Chyawanprash (CP) is an Ayurvedic health supplement which is made up of a super-concentrated blend of nutrient-rich herbs and minerals. Chyawanprash preparation involves preparing a decoction of herbs, followed by dried extract preparation, subsequent mixture with honey, and addition of aromatic herb powders (namely clove, cardamom, and cinnamon) as standard. The finished product has a fruit jam-like consistency, and a sweet, sour, and spicy flavor.

Key words: Chyawanprash, Ayurveda, pharmacological property, alkaloids.

INTRODUCTION

Medicinal plants are important sources of medicine and plays a key role in world health. India is known for its traditional medicinal systems—Ayurveda, Siddha, and Unani. Chyavanaprasam (also known as chyavanaprasam, chyavanaprash) comprises two lexes, “Chyawan” and “Prasha”. The word Chyawan is the name of a sage, and also symbolizes ‘degenerative change’. Prasha denotes a drug or foodstuff that is suitable for consumption. Indeed, it is a comprehensive ‘metabolic’ tonic; it contains a variety of herbs and is used to promote health and prevent diseases.

Chyawanprash has been used traditionally in ayurvedic supplements to help strengthen your digestive system and promote food absorption, corrects hyperacidity, dyspepsia and flatulence, peptic ulcers and gastritis, boost memory power, promote cardio fitness by supporting your heart and helps in slow down the rate of normal aging and promote longevity. It also cleanse your blood and aid in the elimination of toxins, rejuvenate and promote a healthy-looking complexion, support healthy bones and teeth through calcium absorption, help tone your muscles through protein synthesis, provide relief from occasional menstrual discomfort and boost your immune system to improve vigor and vitality, wisdom, and glow (Parle and Bansal, 2006).






Chyavanaprasam is an ancient Indian formulation (a polyherbal jam), prepared according to a traditional Ayurvedic recipe, enriched with several herbs, herbal extracts, and processed minerals. Chyavanaprasam possesses multiple health benefits and has been widely used since ancient times as a health supplement and as a medicine for enhancing immunity and longevity. Chyavanaprasam has been a part of every Indian’s life from the day it was introduced, irrespective of sociocultural, political, and scientific factors. It was one of the most appreciated foods for its antiaging effects long before vitamins, minerals, and antioxidant supplements came into existence. It is a herbal dietary supplement. Typically, it includes four classes of herbal drugs: The *Dashmula* class (ten roots); the *Chaturjata* class (four aromatic plants); *Ashtavarga* (threatened medicinal herbs from the Northwest Himalayas, which are not commercially available in the modern era).






Chyawanprash consists of *Amla/Amalaki* (*Phyllanthus emblica*/Indian gooseberry) pulp as a base, and this is considered to be the most effective *Rasayana* for sustaining homeostasis. Chyawanprash that contains *Amla* has a mixed taste, combining sweet, sour, bitter, pungent, and astringent qualities. On regular intake, it maintains physiological functions and rejuvenates the whole body system






The combination of phytochemicals offers better antioxidant effects than single antioxidant therapy. The revitalizing and tonic effects of Chyawanprash could be due to its rich antioxidant composition, bioactive phytoconstituents, such as carotenoids, flavonoids, tannins, and phenolic compounds though supportive experimental and clinical evidence is scarce. Recent investigations have ascertained that polyphenols (gallic acid, catechin, epicatechin) in Chyawanprash exert key antioxidant potential and is known to possess potent neuroprotective, cytoprotective, and antioxidant properties. Piperine content in it act as a bioavailability enhancer. Chyawanprash is an effective adaptogenic. Some clinical reports do support the adaptogenic and antioxidant effect of it on normal and depressive subjects. The present study intends to provide an overview of the ingredients present in the Ayurvedic formulation “Chyawanprash” with special emphasis on their pharmacological properties.






MATERIALS AND METHODS






The present survey was carried out to get information about the medicinal plants used in the Lehyam “Chyawanprash”. The informations were collected from ayurvedic medical practitioners and literature. So this study was aimed to know about the plants and parts used, and the phytochemicals responsible for pharmacological effects.






| SL No. | PLANT | DESCRIPTION | PLATES |
|--------|------------------------------|--|---|
| 1 | <i>Aegle marmelos</i> | It is a slow-growing, medium sized tree, up to 12-15 m tall with short trunk, thick, soft, flaking bark, and spreading, sometimes spiny branches, the lower ones drooping. Young suckers bear many stiff, straight spines. |  |
| 2 | <i>Aquilaria agallocha</i> | Aquilaria is a genus in the family Thymeleaceae and class Magnoliopsida. It is native to southwest Asia. This tree occurs particularly in rain forest of Indonesia, Thailand, Cambodia, |  |
| 3 | <i>Bambusa arundinacea</i> | Bambusa belongs to a family poaceae, a graceful spinous bamboo, distributed throughout india. It flowers gregariously once in life time(30-40 years) often during September-may. |  |
| 4 | <i>Boerhavia diffusa</i> | Boerhaavia diffusa L. , commonly known as 'Punarnava' in the Indian system of medicine, is a perennial creeping herb found throughout the waste land of India. |  |
| 5 | <i>Cinnamomum tamala</i> | Cinnamomum tamala Nees and Eberm (family Lauraceae) is an Indian plant commonly known as Tejpat or Bay leaf. This is an important traditional medicinal plant found in various parts of India. Plant generally found in upper Himalayas at altitudes of 900 meter to 2500 meter. |  |
| 6 | <i>Cinnamomum zeylanicum</i> | Cinnamon , the eternal tree of tropical medicine, belongs to the Lauraceae family. Cinnamon is one of the most important spices used daily by people all over the world. Cinnamon primarily contains vital | |






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| | | oils and other derivatives, such as cinnamaldehyde, cinnamic acid, and cinnamate. |  |
| 7 | <i>Curcuma zedoaria</i> | Zedoaria is a herbaceous and rhizomatous perennial plant composed of an upright pseudostem, a corm and underground cylindrical branches or rhizomes and fleshy roots. |  |
| 8 | <i>Cyperus rotundus</i> | It is a noxious weed of vegetable and other agricultural crops. It is a pestiferous perennial weed with dark green glabrous culms, arising from underground tubers. The plant produces rhizomes, tubers, basal bulbs and fibrous roots below ground and rosettes of leaves, scapes and umbels above ground |  |
| 9 | <i>Desmodium gangeticum</i> | It is slender, suberect, diffusely branched under shrub, 2-3 ft high; stem woody, branches slender, irregularly angled and clothed with upwardly directed short soft grey hairs |  |
| 10 | <i>Gmelina arborea</i> | The plant height of <i>G. arborea</i> is approximate 40 diameter. The tree form is fair to good, with 6 branchless, often crooked trunk and a large, low The colour of bark is gray and bark is thin. The plant leaves structure is simple, opposite, less heart and width 5-18 cm. |  |
| 11 | <i>Inula racemose</i> | The species is a perennial herb up to 1.5 m tall with fragrant prominent root and rootstock. Stems are many in number, ascending from the base of the rootstock. Leaves are leathery, rough above and densely hairy below, 25–50 cm long and 10–12 cm broad, and elliptic–lanceolate in shape. Flower heads are yellow in | |






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| | | colour, have bisexual florets, and occur in terminal racemes. |  |
| 12 | <i>Leptadenia reticulata</i> | <i>Leptadenia reticulata</i> , one of the important medicinal plants is known for their activity of leaves, roots, and tender stalks. <i>L.reticulata</i> belong to family <i>Asclepiadaceae</i> . <i>L.reticulata</i> is a climber/liana having a stem with cork-like, extremely cracked bark with several branches. |  |
| 13 | <i>Martynia diandra</i> | It is a small herbaceous, erect, branched, glandular hairy annual herb growing upto 0.9-1.2 m in height. Leaves are large, simple, opposite, green in color, broadly ovate to triangular-ovate, glandular hairy, 9–22 × 9–20 cm, cordate at base with sinuolate-dentate margin and acute apex, sticky as often covered with glutinous dew-like substance |  |
| 14 | <i>Mesua ferrea</i> | <i>Mesua ferrea</i> is an evergreen medium to large-sized ornamental tree that is distributed in most of Asian countries including Burma, Cambodia, Indochina region, Malaysia, Myanmar, Nepal (southern), Philippines, Sri Lanka, Sumatra and Thailand. |  |
| 15 | <i>Nelumbium speciosum</i> | The sacred lotus is a perennial aquatic plant with rhizomes (often mistakenly called 'roots') that grow in the mud at the bottom of shallow ponds, lakes, lagoons, marshes and flooded fields. It's large, peltate (with the leaf-stalk attaching to the centre, rather than the edge) leaves rise above the water surface on 1 to 2 m long petioles 4-6. |  |





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| 16 | <i>Oroxylum indicum</i> | A small tree, 8-15 m tall, branched at top; bark light-brown, soft with green juice and often with numerous corky lenticels. |  |
| 17 | <i>Phaseolus trilobus</i> | Primarily a regenerating annual (occasionally perennial) herb with (often) reddish, glabrous or rarely pubescent stems. It is a regenerating annual or perennial herb having numerous stems 0.6-0.9 m from a woody rootstock, long, prostrate, wiry, slender, not at all twining, glabrous or more or less hairy. |  |
| 18 | <i>Pistacia integerrima</i> | <i>Pistacia integerrima</i> belonging to family Anacardiaceae is a dioecious tree native to Asia widely distributed in East Afghanistan, Pakistan, and North West & West Himalaya to Kumaon growing at an altitude of 800-1900m . . <i>Pistacia integerrima</i> has single stem with many branches and large pinnately compound leaves. |  |
| 19 | <i>Premna illtegrifolia</i> | It is a scandent, erect shrub or small tree, more or less thorny on the trunk and large branches. It is large shrub or small tree up to 10 m tall, bole up to 30 cm in diameter, much-branched and sometimes spiny, bark fissured-flaky, brownish-grey |  |
| 20 | <i>Pterocarpus santalinus</i> | <i>Pterocarpus santalinus</i> is a small to medium sized deciduous tree, with an extremely hard, dark purple heartwood with a bitter flavour. Bark is blackish brown, 1-1.5cm thick and deeply cleft into rectangular plates by deep vertical and horizontal cracks, Blaze is pale yellow with numerous pink streaks exuding copious red sticky thick gum. |  |

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| 21 | <i>Solanum indicum</i> | It is an erect under shrub. Stems are much branched, very prickly, and bearing compressed, stout, often re-curved prickles. Leaves are ovate, 3.5 to 15 centimetres long, 2.5 to 8 centimetres wide, lobed or pinnatifid in the margins, blunt or pointed at the tip, pointed at the base, and stellately woolly beneath. |  |
| 22 | <i>Solanum xanthocarpum</i> | A very prickly diffuse bright green perennial herb, somewhat woody at the base; stem is somewhat zigzag; branches are numerous, the younger ones clothed with dense stellate tomentum; prickles are compressed, straight, yellow, glabrous and shining, often exceeding 1.3 cm. |  |
| 23 | <i>Stereospermum suaveolens</i> | <i>Stereospermum suaveolens</i> belonging to the family Bignoniaceae, popularly known as padhri, is a medicinal plant widely used in traditional system of medicine. It is a large deciduous tree found throughout the moist parts of India. |  |
| 24 | <i>Teramnus labialis</i> | It has been reported to be useful in treating rheumatism, tuberculosis, nerve disorders and paralysis |  |
| 25 | <i>Terminalia chebula</i> | It is a deciduous tree, younger stems glabrescent and woody. These are 10 – 20 cm long, sub – opposite, simple; exstipulate; petiolate; laminae broadly elliptic to elliptic oblong, rarely ovate, the bases obtuse, the margins entire, the tips acute, glabrescent |  |
| 26 | <i>Tinospora cordifolia</i> | <i>Tinospora cordifolia</i> is a glabrous, succulent, woody climbing shrub native to India. It thrives well in the tropical region, often attains a great | |

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| | | height and climbs up the trunk of large trees. The stem is gray and creamy white, deeply cleft spirally and longitudinally, with the space between spotted with large rosette like lenticels. |  |
| 27 | <i>Tribulus terrestris</i> | It is small prostrate, 10-60 cm height, hirsute or silky hairy shrub. Leaves are opposite, often unequal, paripinnate; pinnae from five to eight pairs, elliptical or oblong lanceolate. Flowers are yellow in color. |  |
| 28 | <i>Uraria picta</i> | <i>Uraria picta</i> (Jacq.) usually known as Prishnaparni belonging to the family Fabaceae, is one of the important ingredients of 10 herb formulation called Dashmula. <i>U. picta</i> is reported to be a perennial erect woody herb[2-7] reaching about 1-2.5 m height. |  |
| 29 | <i>Vitis vinifera</i> | <i>Vitis vinifera</i> L. (Vitaceae) is a deciduous woody climber with coiled climbing tendrils and large leaves. It has small, pale, green flowers in the summer followed by bunches of berry fruits that range from green to purple-black |  |
| 30 | <i>Asparagus racemosus</i> | It is common throughout Sri Lanka, India and the Himalayas. It grows one to two metres tall and prefers to take root in gravelly, rocky soils high up in piedmont plains, at 1300-1400 m elevation |  |

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| 31 | <i>Dioscorea bulbifera</i> | Dioscorea bulbifera belongs to the family Dioscoreaceae assigned to the order Dioscorales. It is commonly called air potato, air yam or bulbil-bearing yam. It is a vigorous climber plant native of West Africa predominantly found in forest gaps and forest edges. The leaves are shiny green, alternate with a long petiole. |  |
| 32 | <i>Ipomoea digitata</i> | Reaching up to a height of 7-10m height, it is a long-lived perennial climber, large glabrous liana with tuberous roots, stems twinning, leaf blade orbicular in outline, entire or palmately 3-9 lobed; 6-24cm in length and 6-18cm wide |  |
| 33 | <i>Curcuma angustifolia</i> | Curcuma angustifolia is one of over 80 species belonging to the genus Curcuma, in the family Zingiberaceae. Curcuma angustifolia is rhizomatous herb. It is a perennial and a flowering plant, with modest and small spiked inflorescences of three or four yellow, funnel-shaped flowers within tufts of pink terminal bracts (coma bracts). |  |
| 34 | <i>Sida cordifolia</i> | It belongs to the family malvaceae. It is a shrub. It has perennial durations. It has the distribution all over the india and srilanka. It is much branched undershrub, branched densely. The leaves are heart shaped, serrate and truncate. |  |
| 35 | <i>Piper longum</i> | It belongs to the family Piperaceae. It is native to India. Piper longum Linn is a slender, climbing, under shrub, creeper, and rooting below. The young shoots are downy the leaves are about 5-9 cm in long, 5cm wide, ovate, cordate, with rounded lobes at the base, sub-acute, glabrous. |  |
| 36 | <i>Phyllanthus niruri</i> | Phyllanthus niruri plant is originated in India. It belongs to the family | |

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| | | <p>phyllanthaceae. It is an erect, slender, branched, annual herb from 10 cm to 50 cm. of a light greenish to whitish in colour. The leaves of the main stem fall very early so that the side, horizontal and the rather brief twigs, look like the compound leaf</p> |  |
| 37 | <i>Elettaria cardamomum</i> | <p>It is a member of the family zingerberaceae .It is sometimes known as the queen of the spices alongside the black pepper which is known as the king of the spices .The dried fruit of the cardamoms have been used as the spice and in the medicines since the fourth century .It is a herbaceous plant growing up to 6m tall. Leaf shoots are arising from the stout rhizome. It is growing in a thick clump of up to 20 leafy shoots.</p> |  |
| 38 | <i>Santalum album</i> | <p>It is commonly known as Indian sandalwood. It is a small tropical tree which is significance on its fragrance and medicinal qualities. The central part of the tree, the heartwood, is the only part of the tree that is used for its fragrance. It is yellow-brown in colour, hard with an oily texture and due to its durability, is the perfect material for carving.</p> |  |
| 39 | <i>Adhatoda vasica</i> | <p>Justicia adhatoda, commonly known in English as Malabar nut, adulsa, adhatoda. It is a medicinal plant native to Asia, widely used in Siddha Medicine, Ayurvedic, homeopathy and Unani systems of medicine. Justicia adhatoda is a shrub with lance-shaped leaves 10 to 15 centimeters in length by four wide.</p> |  |
| 40 | <i>Withania somnifera</i> | <p>It is also known as Ashwagandha. Ashwagandha is a small evergreen shrub. It grows in India, the Middle East, and parts of Africa. The root and berry are used to make medicine. The species is short, tender perennial shrub .</p> |  |

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| 41 | <i>Emblica officinalis</i> | It also known as emblic, emblic myrobalan, myrobalan, Indian gooseberry, Malacca tree, or amla from Sanskrit amalaki is a deciduous tree of the family Phyllanthaceae. It has edible fruit. The tree is small .The branchlets are not glabrous .The leaves are simple, sessile , light green in colour . |  |
| 42 | <i>Saccharum officinarum</i> | Sugarcane, (<i>Saccharum officinarum</i>), perennial grass of the family Poaceae, primarily cultivated for its juice from which sugar is processed. Other sugarcane products include molasses, rum, and cachaça (a Brazilian alcohol), and the plant itself can be used as thatch and as livestock fodder. |  |
| 43 | <i>Sesamum indicum</i> | Sesame is a flowering plant in the genus <i>Sesamum</i> , also called benne. Numerous wild relatives occur in Africa and a smaller number in India. It is widely naturalized in tropical regions around the world and is cultivated for its edible seeds, which grow in pods. |  |
| 44 | <i>Eugenia caryophyllus</i> | <i>Syzygium aromaticum</i> (<i>S. aromaticum</i>) (synonym: <i>Eugenia caryophyllata</i>) commonly known as clove, is an median size tree (8-12 m) from the Myrtaceae family native from the Maluku islands in east Indonesia. The clove tree is frequently cultivated in coastal areas at maximum altitudes of 200 m above the sea level. The production of flower buds, which is the commercialized part of this tree, starts after 4 years of plantation. |  |

DISCUSSION

| Sl. No | PLANT | PHYTOCHEMICAL | PHARMACOLOGICAL ACTIVITY | REFERENCE |
|--------|-----------------------------|---|--|--------------------------------------|
| 1 | <i>Curcuma angustifolia</i> | steroids glycoside triterpenes saponin | antitumour anti oxidant anti microbial | Nahak and Sahu (2011) |
| 2 | <i>Sida cordifolia</i> | alkaloid flavonoids saponin glycoside | analgesic anti inflammatory | Franzotti EM <i>et al.</i> , (2000) |
| 3 | <i>Piper longum</i> | saponin piperine | immunomodulatory effect anti-asthmatic anti amoebic | Preeti Srivastava (2014) |
| 4 | <i>Phyllanthus niruri</i> | flavonoids alkaloids terpenoid | anti viral diuretic anti cancer | Hossain MA <i>et al.</i> ,(2006) |
| 5 | <i>Elettaria cardomomum</i> | alkaloid glycoside,terpenoid phenolic compounds | antioxidant antimicrobial anti-inflammatory | Korikanthimathm <i>et al.</i> , 2001 |
| 6 | <i>Santalum album</i> | phenolics tannin alkaloids flavonoids | antiseptic anti pyretic anti scabetic | Arun Kumar <i>et al.</i> ,2012 |
| 7 | <i>Adhatoda vasica</i> | alkaloids flavonoids anthraquinone phytosterols | anti ulcer uterotonic | |
| 8 | <i>Withania somnifera</i> | flavonoids phenolics tanins saponin | astringent diuretic anticancer | Kritikar KR and Basu BD (1935) |
| 9 | <i>Emblica officinalis</i> | gallic acid ellagic acid tannin,rutin | radioprotective antioxidant anti-inflammatory | Srikumar <i>et al.</i> ,2005 |
| 10 | <i>Aegle marmelos</i> | alkaloids terpenoids coumarins phenylpropanoids tannins flavonoids | antibacterial activity antihistaminic activity anti-inflammatory antipyretic analgesic activity hepatoprotective activity | Dhankhar S.(2010) |

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| | | | hypoglycemic antioxidant activity | |
| 11 | <i>Aquilaria agallocha</i> | alkaloid anthroquinone fixed oil and fats glycoside tannin triterpenoids | antioxidant activity anti-diabetic activity hepatoprotective activity anti-inflammatory antipyretic activity analgesic activity antihistaminic activity anti-bacterial activity | Bhandari P <i>et al.</i> ,1982 |
| 12 | <i>Bambusa arundinacea</i> | oxalic acid reducing sugar resins, waxes, (taxiphyllin) | antibacterial activity anti inflammatory antiulcer | Chatterjee A.2001 |
| 13 | <i>Boerhavia diffusa</i> | flavonoids,alkaloids, steroids, triterpenoids, lipids, lignins, carbohydrates, proteins, glycoproteins. | antidiabetic activity antibacterial activity antistress adaptogenic immunomodulatory activity | Mishra A.N. and Tiwari H.P(1971) |
| 14 | <i>Cinnamomum tamala</i> | saponins, phytosterols, fatty acids,carbohydrates, monoterpene, sesquiterpene, geraniol and linolol, bornyl acetate, caryophylene oxide, p-coumaric acid, vanillic acid | immunomodulatory, anxiolytic, antidepressant anti-stress activities | Jayaprakasha GK and Rao LJ.2011 |
| 15 | <i>Cinnamomum zeylanicum</i> | cinnamaldehyde, cinnamate, cinnamic acid, essential oils | anti oxidant anti inflammatory anti-inflammatory activity antipyretic activity analgesic activity | Vangalapati M <i>et al.</i> , (2012) |
| 16 | <i>Curcuma zedoaria</i> | curcumenol, dihydrocurdione curcumin, dihydrocurcumin, tetrahydrodemothxycurcu min, tetrahydrobismethoxycu rcumin | antimicrobial and antifungal activity antiamoebic activity larvicidal effect analgesic activity antiulcer activity cytotoxic activity | Maciel N <i>et al.</i> ,2003 |
| 17 | <i>Cyperus rotundus</i> | sesquiterpenes, quinones, flavonoids ,saponins, alkaloids, phenolic acids(salicylic acid, protocatechuic acid, caffeic acid and | Anti-bacterial activity Anti-laceration activity Anti-oxidant activity Anti-platelet activity | Ahmad M <i>et al.</i> ,2014 |

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| | | pcoumaric acid), coumarins and steroids | | |
| 18 | <i>Desmodium gangetium</i> | gangetin gangetinin desmodin | anti-inflammatory activity | K Narayana Aiyar(1957) |
| 19 | <i>Gmelina arborea</i> | Lignans Iridoid glycosides Flavonoids Flavons, Flavone glycosides Sterols | Anti-diuretic activity Anti-diarrhoeal Anti-pyretic Analgesic activity | Banu M <i>et al.</i> , 2013 |
| 20 | <i>Inula racemosa</i> | racemosalactones , alloalantolactone , isoalloalantolactone , inunal , isotelekin | acute toxicity study anti-inflammatory activity analgesic activity cytotoxic activity antifungal activity antibacterial activity hepatoprotective activity anti-allergic activity antioxidant activity antiasthmatic activity cardioprotective activity | A.K. Sharma.2014 |
| 21 | <i>Leptadenia reticulata</i> | steroids, terpenoid, glycoside, coumarins, flavonoids, tannin, phenolic compound,alkaloids diosmetin, stigmasterol, rutin, β -amyrin, α - amyrin, simiarenol, hentriacontanol, reticulatin, deniculatin, leptaculatin. | Antibacterial activity Anti-fungal activity Anticancer activity Anti-asthmatic activity | Kasera PK <i>et al.</i> ,2003 |
| 22 | <i>Martynia diandra</i> | oleic acid, pelargonidin- 3-5-diglucoside, cyanidin-3-galactoside, p-hydroxy benzoic acid, gentisic acid, arachidic acid, linoleic acid, palmitic acid, stearic acid, apigenin, apigenin-7-o- glucuronide | anthelmintic activity analgesic antipyretic activity antibacterial antioxidant activity | Babu HB <i>et al.</i> ,2010 |
| 23 | <i>Mesua ferrea</i> | flavonoids flavons, flavone glycosides sterols | antioxidant activity analgesic activity anti-inflammatory and anti-arthritis activities | Alakh <i>et al.</i> , 2014 |

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| | | | antimicrobial and antifungal activities diuretic properties anti-hemorrhoid activities antiulcer activity | |
| 24 | <i>Nelumbium speciosum</i> | Flavonoids glycosides | Antidiabetic effects Anti-inflammatory effects Antipyretics Antiostrogenic effect Antioxidant effects | Mukherjee <i>et al.</i> ,1997 |
| 25 | <i>Oroxylum indicum</i> | triterpenoids, lipids,flavonoids, glycosides | Antioxidant Antiulcer Antimicrobial Gastroprotective | Dinda <i>et al.</i> , 2007 |
| 26 | <i>Phaseolus trilobus</i> | dalbergioidin, kievitone, phaseollidin and flavonoid glycosides, kaempferol, vitexin, isovitexin | hepatoprotective antioxidant properties | Fursule, R.A and S. D. Patil (2010). |
| 27 | <i>Pistacia integerrima</i> | alkaloids, flavonoids, tannins, saponins, sterols and essential oils | antimicrobial activity antioxidant activity analgesic | Ahmad S, Ali M and Ansari SH (2010). |
| 28 | <i>Premna illtegrifolia</i> | flavonoids flavons, flavone glycosides sterols | anti-arthritic antibacterial anticancer antitumor tumor suppression cytotoxicity antiparasitic cardiac stimulant cardioprotective | Thirumalai D 2011 |
| 29 | <i>Pterocarpus santalinus</i> | carbohydrates, steroids, anthocyanins, saponins, tannins, phenols, triterpenoids, flavonoids, glycosides glycerides | anticancer antitumor tumor suppression cytotoxicity | Nagaraju <i>et al.</i> ,1991 |
| 30 | <i>Solanum indicum</i> | teroidal saponins, steroidal glycoside, sesquiterpenoids, sesquiterpenoids, hydroxycoumarins, phenolic compounds, coumarins, coumarinolignoids alkaloids, saponin, fatty | antibacterial anticancer antitumor tumor suppression cytotoxicity antiparasitic cardiac stimulant cardioprotective | Deb <i>et al.</i> , 2013 |

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| | | acid, glycerides of the oil, polysachharide, triterpenes | | |
| 31 | <i>Solanum xanthocarpum</i> | solanacarpine solamargine aesculetin aesculin carpesterol, diosgenin, campesterol, daucosterol triterpenes cycloartanol cycloartenol | antiasthmatic properties hypoglycemic activity hepatoprotective activity cardiovascular effects | Heble .1968 |
| 32 | <i>Stereospermum suaveolens</i> | Saponins Flavonoids Tannins Phenols Fats and oils | antibacterial anticancer antitumor tumor suppression | Ashok AM and Chandra shekhar VM.2011 |
| 33 | <i>Teramnus labialis</i> | vitexin,bergenin daidzin, | antitumor tumor suppression cytotoxicity | Sridhar C (2006) |
| 34 | <i>Terminalia chebula</i> | tannins Flavonol glycosides, tri-terpenoids, chebulin, Gallic acid, methyl gallate, ethyl gallate, chebulagic acid, tetra-O-galloyl- β -D-glucose, and ellagic acid, chebulinic acid and penta-O galloyl- β -D-glucose | anti-bacterial activity anti-fungal activity anti-amoebic and immunomodulatory activities anti-anaphylactic activity | Gupta Prakashchandra. 2012 |
| 35 | <i>Tinospora cordifolia</i> | alkaloids glycosides diterpenoid lactone terpenoid | neuroprotective effect immunomodulatory activity gastroprotective activity hepatoprotective activity anticancer activity | Meena AK <i>et al.</i> ,2010 |
| 36 | <i>Tribulus terrestris</i> | flavonoids, flavonol glycosides, steroidal saponins, and alkaloids. | diuretic, aphrodisiac, antiurolithic, immunomodulatory, antidiabetic, absorption enhancing, hypolipidemic, cardiogenic, central nervous system, hepatoprotective, anti-inflammatory, analgesic, antispasmodic, anticancer, antibacterial, anthelmintic, | Wu TS <i>et al.</i> ,1999 |

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| | | | larvicidal, and anticariogenic activities | |
| 37 | <i>Uraria picta</i> | alkaloids, flavonoids, steroids, terpenoids, phenols, and saponins, | anti-inflammatory hepatoprotective effects anti-acaricidal activity antioxidant activity antimicrobial efficacy | Igboechi <i>et al.</i> ,1989 |
| 38 | <i>Vitis vinifera</i> | alkaloids, flavonoids terpenoids, phenols, and saponins | antioxidant effects cardioprotective effects hepatoprotective effects anticarcinogenic effects antimicrobial and antiviral effects antidiabetic effects | Bodka Sadaiah <i>et al.</i> ,2011 |
| 39 | <i>Asparagus racemosus</i> | alkaloids, flavonoids, dihydrophenanthrene derivatives, furan derivatives | Antioxidant property Diuretic activity Antiepileptic effect Anti-plasmodial activity | Chawla <i>et al.</i> ,2011 |
| 40 | <i>Dioscorea bulbifera</i> | Alkaloids glycosides | anti-diabetic property | Shriram <i>et al.</i> ,2008 |
| 41 | <i>Ipomoea digitata</i> | alkaloids, flavonoids terpenoids, phenols, and saponins | anti-diabetic property antioxidant property control high blood pressure | Matin <i>et al.</i> ,1969 |
| 42 | <i>Eugenia caryophyllus</i> | m-Eugenol ,3-Allyl-6-methoxyphenol , Eugenol acetate , Caryophyllene , 2-Pentanone | antiseptic anaesthetic analgesic, antioxidant anti-inflammatory antimicrobial activities | Bao <i>et al.</i> ,2012 |
| 43 | <i>Sesamum indicum</i> | Alkaloids oils | Antioxidants Anti-inflammatory | Borchani <i>et al.</i> , 2010 |
| 44 | <i>Saccharum officinarum</i> | Flavonoids Phenols | Analgesic activity Antihepatotoxic activity Antihyperglycemic activity Diuretic activity Antithrombotic activity Antihypercholesterolemic effect | Georges P <i>et al.</i> ,2006 |

CONCLUSION

The plant constituents used in the ayurvedic medicine Chyavanaprasam are immensely rich in several phytochemical compounds that show various pharmacological activities. Medicinal plants contains a variety of compounds such as Flavonoids, Alkaloid, Saponins,Antioxidants,Piperines,Phenolic Compounds etc which might be responsible for strengthens immunity and facilitates the healing process ,enhances the immune system, and fights infections They contain

a number of bioactive compounds such as flavonoids which is responsible for its antibacterial and antioxidant property. Antioxidants are part of the body's defence system against free radical attack. It is also involved in the prevention of cellular damage which leads to pathways of aging, bone damages and cancer.

The phytochemicals possess a wide range of medicinal properties, which may help in protection against various diseases. Flavonoids act as antioxidants, alkaloids protect against chronic diseases, saponins protect against hypercholesterolemia. Phytochemicals have an important role in preventing chronic diseases like cancer, diabetes, bone damage, strengthens immunity, fight infections, gaining healthy weight and regulating proper metabolism and skin problems.

Clinical studies suggest that ingredients of chyavanaprash is scientifically validated for its nutritive and therapeutic efficacy. All these nutrients are blended in specific quantities and subjected to unique pharmaceutical processes in such a fashion that builds a potent synergy for optimal health virtues. It helps in fighting off the diseases and prevents the illnesses.

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