



LITERATURE REVIEW OF OMA LEGIUM FOR THE TREATMENT OF VENPULLI (VITILIGO) IN CHILDREN

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Abstract

Siddha, the traditional system of medicine is widely being practiced in the Tamil Nadu and the concept pertaining to drug ingredients are from plant, mineral, metals and animal origin. Siddhars classified diseases as 4448. Venpulli is one among them and it comes under 18 types of kuttam. It is also called as venkuttam, venpadai, suvetha kuttam. The signs and symptoms of venpulli described in Siddha literatures are very closely associated with the signs and symptoms of vitiligo. The term "Vitiligo" is derived from the Greek word "vitelius" (calf), probably due to the resemblance of the white spots of vitiligo to white patches upon a calf. Vitiligo may present anytime in life, including the neonatal period and childhood. The main ingredients of the Oma legium are Omam, Amukkura kizhangu, Kukil, Parangipattai, Karbogarisi, Sarkkarai, and Nei. The ingredients of this formulation possess Antioxidant, Immunomodulatory, detoxification of aflatoxin activity, Anti-inflammatory and Antidepressant effects. All the ingredients of trial drugs are of herbal composition and animal origin. Legium form of medicine is very easy to administer in children and also it assimilates quickly in the body. This review further focuses to improve the research on Siddha medicine.

Key words : Siddha, Oma legium, Vitiligo, Venpulli.

1. Introduction

Siddha system is one of the ancient system of medicine indigenous to our country. Eighteen Siddhars are considered to be the pillars of Siddha medicine. Siddha medicine can play majorly preventive, curative, and promotive role in all type of disorders. Siddhars classified diseases into 4448 types. The Siddhars consider that life exists throughout the body like Siva exists anywhere else. They also consider that this life carries out three major functions, viz. creation, protection and destruction. The energy for these actions is considered to be derived from Vatham (air), Pitha (Bile) and Kapha (Phlegm). Air, bile and phlegm are considered as the three supports of the human system because they are the three fundamental principles in the composition of human body.^[1] According to Siddha medicine venpulli occurs due to the derangements in mukkutram with dominance of vatham.

“Vathamalathu Meni Kedathu”

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The skin plays an important role in our interaction with the world, and visible skin disorders can limit healthy psychosocial development owing to the stigma created by these disorders. Venpulli is one among them and it comes under 18 types of kuttam. It is also called as Venkuttam, Venpadai, Suvetha kuttam. The signs and symptoms of venpulli described in siddha literatures are very closely associated with the signs and symptoms of vitiligo. The term "vitiligo" is derived from the Greek word "vitelius" (calf), probably due to the resemblance of the white spots of vitiligo to white patches upon a calf. Vitiligo may present anytime in life, including the neonatal period and childhood.^[2]

Vitiligo is a common acquired disorder of skin pigmentation characterized by localized loss of skin pigments secondary to melanocytes damage. It affects males and females equally. Age of onset is before 20 to 30 years of age in most of the patients. Mostly it affects both sides of the body equally. It can affect any area of body eg: face, lips, arms, legs, genitals, scalp, soles, palms, trunk, back, neck, fingers, etc. It results from an autoimmune process that damages melanocytes.⁽³⁾ The disease disturbs individuals psychologically, particularly in dark-skinned victims. The cause is multifactorial, may be genetic, autoimmunity, neurologic factors, toxic metabolites, and lack of melanocyte production or early degeneration of melanocytes.

Focal loss of melanocytes results in the development of patches of hypopigmentation. A positive family history of vitiligo is relatively common in those with extensive disease, and this type is also associated with other autoimmune diseases. Trauma and sunburn may (through the kobner phenomenon) precipitate the appearance of vitiligo. It is thought to be the result of cell – mediated autoimmune destruction of melanocytes but some areas are targeted and others are spared is unclear⁽⁴⁾.

Vitiligo affects about 0.5 -2% of the world population, which 50% starts during childhood, causing increased vitiligo psychological stress during the formative years. The estimated prevalence of vitiligo in India is 0.46-8.8%. The prevalence of childhood vitiligo (among patients suffering from this disease) has been reported to be between 23% and 26%. The prevalence of segmental vitiligo is reported to be higher in children (17-29%) as compared to that in adults (5%).

Available epidemiological data indicate that in about 25% patients vitiligo appears before 10 years of age. Mean age at onset of childhood vitiligo in an Indian study was 6.2 years. Though rare, cases have been reported as early as 6 weeks after birth. A female preponderance has been observed in Indian patients with a male to female ratio of 1:1.7. Positive history of vitiligo in ≥ 1 family member has been reported in 7-8.5%.⁽³⁾ Since long ago, the treatment of vitiligo is a challenge to the medical fraternity. It creates a very bad social stigma for the victim. The victims are physically affected and also under very gross psychological stress.

In siddha system there are six types of suvaigal. There are Inippu, Pulippu, Uppu, Kaippu, Kaarpu, Thuvarpu. Most of the ingredients in oma legium has kaippu (bitter) and Inippu (Sweet) taste which helps in decreasing the pitha humor. Taste such as Inippu (Sweet), Kaippu (bitter), Thuvarpu (astringent) is said to balance the pitha humor. More over most of the ingredients have stomachic, carminative, stimulant, tonic, diuretic, laxative action. Legium form of medicine is very easy to administer in children and also it assimilates quickly. All the ingredients of trial drug are mentioned in table no 1. The drug is composition of herbal and animal origin. so the investigator believes that, it might be safe and will have efficacy in treating children with venpulli (vitiligo).

Table no1: Raw drugs of oma legium

S.No	Name of the Plant	Botanical name	Used Part	Weight	Purification
1	Omam	<i>Trachyspermum ammi</i>	Seeds	3500g	It is purified by soaking it in lime stone water and then it is dried.
2	Amukkura kizhangu	<i>Withania somnifera</i>	Root	35g	It is dried and powdered. Milk is taken in a vessel and the mouth of the vessel is covered with a cloth. Then powdered Amukkura kilangu is placed over the cloth and then it is boiled for 3 hours and then dried.
3	Kukil	<i>Shorea robusta</i>	Pisin	35g	It is soaked in thripala decoction for 6 hours
4	Parangipattai	<i>Smilax china</i>	Tuber	35g	It is purified by cleaning it with pure cloth and the outer layer is removed.
5	Karbogarisi	<i>Psoralea corylifolia</i>	Seeds	35g	It is soaked in the juice of <i>Ocimum basilicum</i> and then dried.
6	Sarkkarai	<i>Saccharum officinarum</i>	Crystallised sugar	350g	It is crushed and fine grinded.
7	Nei	<i>Ghee</i>		1.34 litre	

2.Method of preparation

Omam is purified and mixed with 21.5 litres of water and reduced to 1/8 in decoction form. Sugar is added to the decoction to get the Pagu Padham consistency. The other raw drugs are purified powdered are added to it. Then ghee is added to it and mixed well until the desired texture is obtained.

Dosage : 5- 7 years (1.3g)
8-12 years (2.6g) - (After food)

Duration : 1Mandalam (45 days).

Indication : Vitiligo ^[5]

a.Omam



வேறு பெயர்

அசமோதம், தீப்பியம்.

Botanical Name	Trachyspermum ammi
Family	Apiaceae
Eng	The Bishops weed
Parts used	Seed ^[6]

Botanical description

It is widely grown in arid and semi-arid regions. where soil contain high levels of salts. Ajwain is a profusely branched annual herb, 60-90 cm tall. Stem is striated inflorescence compound umbel with 16 umbellets each containing up to 16 flowers flowers actinomorphic, white, male and bisexual, corolla 5, petals bilobed, stamens 5, alternating with the petals, ovary inferior, stigma knob-like, fruit aromatic, ovoid, cordate, cremocarp with a persistent stylopodium, leaves pinnate, with a terminal and 7 pairs of lateral leaflets.

Organoleptic character

Taste	Kaarpu
Character	Veppam
Division	Kaarpu
Action	Stomachic ,Antispasmodic, Carminative, Antiseptic, Stimulant, Tonic, Sialogogue. ^[6]

Chemical Constituents

Thymene, Para-cymene, γ -terpenine, α - and β -pinenes, dipentene, α -terpinene, and carvacrol, camphene, myrcene, α -3-carene, saponin.

Pharmacological activity

Antiplatelet-aggregatory activity, Anti-inflammatory activity, Detoxification of aflatoxins activity, Digestive stimulant actions *in vivo* and *in vitro*, Anthelmintic activity.

Traditional use

The seeds possess excellent aphrodisiac properties. The seeds contain 2–4.4% brown colored oil known as ajwain oil. The main component of this oil is thymol, which is used in the treatment of gastro intestinal ailments, lack of appetite and bronchial problems. The oil exhibits fungicidal, antimicrobial and anti-aggregatory effects on humans, atonic dyspepsia and diarrhea. The seed of ajwain is bitter, pungent and it acts as anthelmintic, carminative, laxative, and stomachic. It also cures abdominal tumors, abdominal pains and piles.^[7]

b. Amukkura kizhangu

வேறு பெயர்

அமுக்கிரி, அமுக்குரவி, அமுக்குரவு, அமுக்கினாங்கிழங்கு, அசுவகந்தம், அசுவகந்தி, அசுவம், இருளிச்செவி, கிடிச்செவி, வராககர்ணி.

Botanical Name	Withania somnifera
Family	Piperaceae
Eng	Winter cherry
Parts used	Root ^[6]

Botanical description

Withania somifera is a small, woody shrub in the Solanaceae family that grows about two feet in height. It can be found growing in Africa, the Mediterranean, and India. An erect, evergreen, tomentose shrub, 30-150 cm high, found throughout the drier parts of India in waste places and on bunds. Roots are stout fleshy, whitish brown; The **roots are the main portions of the plant used therapeutically.**^[8]

Organoleptic character

Taste	Kaippu
Character	Veppam
Division	Karppu
Action	Alterative, Aphrodisiac, Deobstruent, Diuretic, Tonic, Soporific, Sedative. ^[5]

Chemical Constituents

Isopelletierine, anaferine, cuseohygrine, anahygrine, withanolides, withaferins and saponins. Sioindosides acylsterylglucoside sioindosides VII-X, Withaferin-A, 5-dehydroxy withanolide-R, withasomniferin-A.

Pharmacological activity

Antioxidant activity, Immunomodulation and hematopoiesis activity, Anxiety and depression activity, Chronic stress activity.

Traditional use

It enhances the function of the brain and nervous system and improves the memory. It improves the function of the reproductive system promoting a healthy sexual and reproductive balance. Being a powerful adaptogen, it enhances the body's resilience to stress. Ashwagandha improves the body's defense against disease by improving the cell-mediated immunity. It also possesses potent antioxidant properties that help protect against cellular damage caused by free radicals.^[9]

c. Kukil

வேறு பெயர்

குங்குலியம், குங்கிலிகம், சருவரசம், குக்குலு, குக்கில், குக்கிலியம்.

Botanical Name Shorea robusta

Family Asclepidaceae

Eng Sal tree

Parts used Pisin^[6]

Botanical description:

Shorea robusta is a large deciduous tree 18-30m in height with smooth or longitudinally fissured reddish brown or grey bark. Base cordate, 12-14 pairs of lateral veins, stalks 2- 2.5 cm long. Flowers yellow, in large showy branched clusters. Fruit ovoid, with five wings, three long and two short the longer up to 7.5 cm long.

Organoleptic character:

Taste Kaippu

Character Veppam

Division Karppu

Action Stimulant, Expectorant, Diuretic.^[6]

Chemical Constituents

Mono-sesqui, tri-terpenoids, ursolic acid, triand tetrahydroxy ursenoic acid, asiatic acid, α and β -amyrin.

Pharmacological activity

Anti-inflammatory activity, Immunomodulatory activity, Woundhealing activity, Free radical scavenging and antioxidant activities.

Traditional use

The leaves and bark are used to treat wounds, ulcers, leprosy, headache. The bark is also used to treat diarrhoea, dysentery and vaginal discharges. The oleoresin exuded from the plant has astringent, carminative and stomachic properties. It is useful in vitiated conditions of pitta, wounds, ulcers, neuralgia, burns, fractures, fever, diarrhoea, dysentery, splenomegaly, obesity and burning of the eyes.^[10]

d. Parangipattai

வேறு பெயர்	மதுஸ்மிகம், மதுஸ்மீகி, சீனப்பட்டை, பறங்கிச்சக்கை
Botanical Name	Smilax china
Family	Smilacaceae
Eng	China root
Parts used	Tuber ^[6]

Botanical description

Tibbi name of this plant is Chobchini. It is also called china root and its botanical name is *Smilax chinensis*. It is a deciduous climber, native to China and Japan. Stems are unarmed and sparsely prickled, leaves are rounded, or wedge-shaped.

Organoleptic character

Taste	Inippu
Character	Thatppam
Division	Inippu
Action	Alterative, Antisyphilitic, Aphrodisiac, Depurative ^[5]

Chemical Constituents

Beta-sitosterol, Caffeic acid, catechin, daucosterin, daucosterol, engeletin, epicatechin, friedelin, heloniosides, hydroxyflavin, isoengeletinaringenin, piceid, quercetin, resin, resveratrol, rutin, saponin, scirpusin, seiboldogenin, smilacin, smilasides, tannin, taxifolin, trihydroxystibene, vanillic acid, flavanoids and stilbenes.

Pharmacological activity

Anti-inflammatory activity, Immunomodulatory activity, Woundhealing activity, Free radical scavenging and antioxidant.

Traditional use

It is used to treat syphilis, gonorrhoea, swelling, abscess, and boils. This plant is known to be rich in steroidal saponins. *Smilax chinensis* is prescribed in the management of gouty arthritis. It has various pharmacological activities. It is also prescribed in sexual disorders, especially for chronic pelvic inflammation. *Smilax chinensis* is often used as a blood purifier ^[11]

e. Karbogarisi



வேறு பெயர்	காப்புவா அரிசி, பாகுசி, காப்புவா அரிசி
Botanical Name	Psoralea corylifolia
Family	Fabaceae
Eng	Babchi seeds
Parts used	Seeds ^[5]

Botanical description

Psoralea corylifolia is a small, erect, annual herb growing up to 60–120 cm in height. Seeds are brownish black in color, oblong, and flattened. the seeds as kidney shaped, 2–4 mm long, 2–3 mm broad, and 1–1.5 mm thick, hard, smooth, exalbuminous with straw-colored testa, with an agreeable aromatic odor and a pungent-bitter taste.^[12]

Organoleptic character

Taste	Kaippu
Character	Veppam
Division	Karpu
Action	Laxative, Stimulant ^[6]

Chemical Constituents

Isoflavone, corylinin, isopsoralen, psoralen, sophoracoumestan A , neobavaisoflavone , daidzin uracil.^[12]

Pharmacological activity

Antidepressant activity, Antioxidant activity ,Immunomodulatory activity ^[13]

Traditional use

Psoralea corylifolia roots, stems, leaves, seeds, and whatever blooms it has, all are used to treat a variety of skin problems, such as leukoderma, skin rashes, infections, and others. *Psoralea corylifolia* is a very ancient remedy for leukoderma ,it has been tried extensively not only by the practitioners of the Indian medicine but also by the followers of the Western system. The furanocoumarins, which contain psoralens, promote pigmentation. The powder is used by Vaidyas internally for leprosy and leukoderma and externally in the form of paste and ointment. It helps fight vitiligo, a disorder in which patches of skin lose their pigmentation. It is used in the inflammatory diseases, mucomembranous disorders, dermatitis, and edematous conditions of the skin. It also alleviates boils and skin eruptions. The plant has blood purifying properties. It has shown to improve the color of skin, hair, and nails. Seeds are useful in bilious disorders. *Psoralea corylifolia* extracts have found to possess antitumor, antihyperglycemic, antidepressant, and antioxidant activities.^[14]

f. Sarkkarai



வேறு பெயர்	புன்றூசும், இக்கு, வேய்
Botanical Name	Saccharum officinarum
Family	Poaceae
Eng	Sugarcane, Noble cane
Parts used	Crystallised sugar ^[6]

Botanical description

Saccharum Officinarum, a perennial plant, grows in clumps consisting of a number of strong unbranched stems. The stems vary in color, being green, pinkish, or purple and can reach 5 m (16 ft) in height. The elongated, linear, green leaves have thick midribs and saw-toothed edges and grow to a length of about 30 to 60 cm (12 to 24 in) and width of 5 cm (2.0 in). The terminal inflorescence is a panicle up to 60 cm (24 in) long, a pinkish plume that is broadest at the base and tapering towards the top.^[15]

Organoleptic character

Taste	Inippu
Character	Seetham
Division	Inippu
Action	Antiseptic, Demulcent, Cooling, Preservative ^[6]

Chemical Constituents

42% cellulose, 25% hemicellulose, 20% lignin, 43% cellulose, 24% hemicellulose, and 22% lignin.

Pharmacological activity

Antioxidant activity, Immunotherapeutic effects, Anti-inflammatory activity.

Traditional use

Sugarcane juice is known for its diuretic property. It is thought that regular use of sugarcane juice will keep the urinary flow clear and fast, which will further help the kidneys to perform their function properly. It is also used as aphrodisiac, laxative, cooling, demulcent, antiseptic, and tonic.^[16]

7. Nei



Synonyms

Aavinnei

Ko nei

Thuppu

Chemical Constituents

Palmitic (24-28.8%), Stearic (9.4-14%) and Myristic (8.5-10%) acids. Monounsaturated fatty acids -23.8% ,Oleic acid. Polyunsaturated fatty acid -2.45% (buffalo) and 4% (cow). The vaccenic acid (2.18%) linoleic acid.^[17]

Pharmacological activity:

Ghee rich in the oil soluble vitamins A and E and also rich in vitamin K2 and CLA (Conjugated Linoleic Acid); an antioxidant with anti-viral and anti-cancer properties

Traditional use

Ghee is responsible for its better digestibility and anti-cancer properties. Ghee is also an important carrier of fat-soluble vitamins (A, D, E, K) and essential fatty-acids (linolenic acid and arachidonic acid), apart from having rich and pleasant sensory properties. Ghee is believed to be a coolant, capable of increasing mental power, physical appearance, curative of ulcers and eye-diseases.^[18]

3.Conclusion

Here the formulation Oma legium which has been specified for vitiligo in children has been a boon for Paediatric population. All the ingredients mentioned has Antioxidant Immunomodulatory activity, Anti-inflammatory and Antidepressant effects. The above mentioned medicine can be effectively used for treating Venpulli (Vitiligo) in children. Besides all, the ingredients of the plants have Stomachic, Carminative, Stimulant, Tonic, Diuretic, Laxative action.

4.Reference

1. Dr.K.N.Kuppusamy Mudaliar, H.P.I.M., Siddha Medicine General- (part –I) Department of Indian medicine and homoeopathy, Chennai-600 106. Copyright – Government of Tamil Nadu, 1st Edition publication 2009 pg.no.1
2. Vinod K Paul, Arvind Bagga, Aditi Sinha, Ghai essential pediatrics, CBS Publishers & Distributors Pvt Ltd, eighth edition 2013 pg.no.1
3. Arun C Inamadar, Aparna Palit, S Ragunatha, Text book of pediatric dermatology, Text book of pediatric dermatology Jaypee brothers medical publishers (p) LTD second edition Pg.no 419.
4. Stuart H. Ralston, Ian D. Penman, Mark W. J. Strachan, Richard P. Hobson, Davidson's principle and practice of medicine, 23rd Edition.
5. Aanaivari Aanandhan, Saraku-suthi seimuraigal (Tamil Maruthuva Nool Varisai - 8), Indian Medicine and Homeopathy, 1st edition 2008, p.no:4.
6. வைத்திய ரத்தினம், க.ச.முருகேசமுதலியார்குணபாடம், இந்திய மருத்துவம் மற்றும் ஓமியோபதி துறை, சென்னை - 600106.
7. Ranjan Bairwa, R. S. Sodha, and B. S Rajawat, Trachyspermum ammi, Pharmacognosy review - 2012 Jan-Jun; 6(11): 56–60.
8. Girdhari Lal Gupta, A.C Rana Plant Withania somnifera (Ashwagandha) Pharmacognosy Reviews Vol 1, Issue 1, Jan- May, 2007 An official Publication of Phcog.Net
9. Narendra Singh, Mohit Bhalla, Prashanti de Jager, Marilena Gilca, An overview on Ashwagandha :A Rasayana (Rejuvenator) of Ayurveda, African journal of traditional, complementary and alternative medicines 2011:8(5),208-213.
10. S Merish1, M Tamizhamuthu1, and Thomas M Walter, Review of Shorea robusta with special reference to Traditional Siddha Medicine., Research and reviews: journal of pharmacognosy and phytochemistry, 2013, 2(1), p.no 5-13.
11. Rida Zainab, Muhammad Akram and Wafa Abbaass, Pharmacological Evaluation, Phytochemical Analysis and Medicinal Properties of Smilax chinensis D.C., Asian Journal of Emerging Research, 2019, 1(2): 57-61.
12. P.S.Khushboo, V.M.Jadhav, V.J.Kadam, N.S.Sathe., *Psoralea corylifoli* Linn. "Kushtanashini", Pharmacogn Rev. 2010, 4(7): 69–76.
13. B Ruan, L-Y Kong, Y Takaya, M Niwa, Studies on the chemical constituents of *Psoralea corylifolia* L, J Asian Nat Prod Res, 2007;9(1):41-4.
14. Fiaz Alam | Gul Nawaz Khan | Muhammad Hassham Hassan Bin Asad, *Psoralea corylifolia* L: Ethnobotanical, biological, and chemical aspects: A review Phytotherapy Research. 2018;32:597–615.
15. Amandeep Singh, Uma Ranjan Lal1, Hayat Muhammad Mukhtar2, Prabh Simran Singh3, Gagan Shah, Ravi Kumar Dhawan, Phytochemical profile of sugarcane and its potential health aspects, Pharmacognosy Reviews, 2015, 9 (17):45-54.
16. Sepideh Miraj, Pharmacological effects of *Saccharum officinarum* L. Der Pharmacia Lettre, 2016, 8 (13):223-225
17. Carolina Pena-serna Luis Fernando Restrepo-Betancur, Chemical, physicochemical, microbiological and sensory characterization of cow and buffalo ghee, Food Sci. Technol, Campinas, 2020, 40(Suppl. 2): 444-450.
18. Anil Kumar, Shreya Tripathi, Nidhi Hans, Falguni Pattnaik, Satya Narayan Naik, Ghee : Its Properties, Importance and Health Benefits, LIPID UNIVERSE, 2018, Volume-6, p.no 6-14.