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Review Article

A CRITICAL REVIEW ON UPAVISA WITH SPECIAL REFERENCE TO THEIR THERAPEUTICS

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ABSTRACT

Empirical knowledge about medicinal plants plays a vital role in primary health care and has a great potential for the discovery of new drug. Ayurvedic Upavisha is very exclusive in its pharmaceuticals and therapeutics. Our ancient knowledge suggests that the poison can become a very good medicine if it is administered properly i.e. used in proper dosage, in proper manner and in the proper stage of the diseases. This review is a sincere attempt to summarize the information concerning semi poisonous drugs of Indian system of medicine in respect to their literary survey, modern researches and their wide range of therapeutics.

Keywords: Ayurveda, Upavisha, Sodhana, Literature, Therapeutics

INTRODUCTION

Etymologically 'Visa' is that which causes 'Visannatva' (distress) and / or visada (Sadness) in the body. Thus 'Visa' has been defined as a substance which prove destructive to life and which possess Vyavayi, Vikasi, Usna, Tikсна, Ruka, Suksma, Asukar, Anirdesya rasa / Apaki etc. properties. And the drugs which possess these properties are called 'Visas' and those which are less in virulence than 'Visas' are called 'Upvisas' (sub-poisons)¹. Vedic literature explained the mode of drug action due to its inherent powder (Veerya)². It was long ago when Ayurvedic fundamentals and its eight clinical specialties were documented in the Ayurvedic literatures.³ Initially Dravyaguna shastra was not mentioned as a separate branch of Ayurveda. But all the treatises contain elaborate descriptions about the herbs, their properties and indications. Charaka identified the necessity of complete knowledge of herbs and their utility in therapeutics. Charaka opined that a deadly poison can become a very good medicine if it is administered properly⁴.

Classification

The classification of poison is based on certain basic criteria like origin, base, properties, potency etc. Some of the Ayurvedic classics and texts in medieval period have classified all the poisons into two categories as Maha Visha and Upavisha basing on their toxicity and potency⁵. Upavisha are the group of drugs which were less toxic in nature and not so lethal but produce certain toxic symptoms on consumption or administration. The symptoms produced in the body due to Upavisha are less toxic, less severe, usually not life threatening and their toxicity can be controlled by therapeutic measures⁶. Broadly 'Visas' are classified in Sthavara, Jangam and Krtrima types, of these 'Sthavara Visas' are those which belong to minerals or to poisonous herbs group while 'Jangama Visas' are obtained from the animals kingdom. The 'Krtrima Visas' are formed as a result of undesired

compounding of drugs. Among the poisonous herbs-tuberous and / or root poisons are more sharp and virulent in their actions⁷.

Review of Literature

In literature 'Rasarnava' appears to be the first text to mention about 'Visa' 'Upavisa' classification. After 'Rasarnava', 'Rasa Ratnakara', 'Rasendra Cudamani' and 'Rasa Ratna Samucchaya' have mentioned about five 'Visas' while other texts like 'Rasendra Cintamani', 'Sargadhara Samhita', Bhava Prakasa and Ayurveda Prakasa have enumerated nine dravyas as 'Visas'. The Author of 'Rasatarangini' (20th A D) described only 'Vatsanabha' in 'Visa' group considering its medicinal importance, common availability and frequent use in therapeutics. The other drugs of poisonous nature have been included in 'Upavisa' group by this text. The literary review on the subject revealed that there is a difference of opinion amongst the authors regarding the drugs of 'Upavisa' group. 'Rasarnava Kara' mentioned five dravyas in 'upavisa' group, while 'Rasaratna Samucchaya Kara' and 'Rasendra Cintamani Kara' enumerated seven drugs; in later texts like 'Ayurveda Prakasa' and 'Yogaratanakara' it is raised up to nine while in 'Rasa Tarangini' it has gone up to eleven⁸⁻¹⁴. Thus historically there seems to be a gradual increase in the number of poisonous herbs which means more and more drugs have been recognized for their poisonous nature as the time passed. The different poisonous herbs included in 'Upavisa' group by various texts are shown in Table 1.

Properties and Pharmacological Properties of Upavishas

'Caraka' in the 23rd chapter of cikitsastana has mentioned following ten properties of Visas, viz – Laghu, Ruksa, Asu, Visada, Vyavayi, Tikсна, Vikasi, Suksma, Usna and Anirdesyarasa¹⁵. Ruksa, Usna, Tikсна, Suksma, Asu, Vyavayi, Vikasi, Visada, Laghu, and Apaki are the 10

properties of 'Visas' mentioned by 'Susruta' in Kalpasthana, 'Susruta' mentions avipaki in place of aniredesyarasa¹⁶. Acarya Sarandhar had mentioned 8 properties of Visas i.e. Vyavayi, Vikasi, Suksma, Chhedi, Madavaha, Agneya, Prananasak, Yogavahi¹⁷. Comparison of Pharmacological actions is shown in Table 1.

Importance of Sodhana

The poisonous plants reported in ancient scriptures of Ayurveda are being still practiced widely in a number of diseases after proper Shodhana (purificatory procedures). Ayurvedic physicians successfully employed these drugs after proper Shodhana (processing) known as Samaskara. The concept of Shodhana was mentioned for the first time in Charaka Samhita in the context of Danti Dravanti Kalpadhyaya¹⁸. To reduce the 'Vikasi' property of Danti root, Charaka mentioned it as 'Samaskara' Acharya Vagbhata also mentioned the Shodhana of plant drugs in detail in the context of Bhallataka Rasayana and 'Bhallataka'¹⁹. The concept of Shodhana in Ayurveda is not only a process of purification/detoxification but also a purificatory procedure to enhance the potency and efficacy of the drug²⁰. It is reported that Aconite (Vatsanabha) purified by cow's urine is converted to cardiac stimulant, whereas raw Aconite is cardiac depressant²¹. It is clearly mentioned in 'Bhava Prakasa' that the bad/toxic effects attributed to 'Asodhita Visas' are minimized when these are used after being subjected to 'Sodhana' process. Hence 'Visas' should be subjected for 'Sodhana' before being used in therapeutics²².

Various Sodhana Procedures Mentioned for Upavisha

Review of Ayurvedic literature reveals that the following 'Sodhana procedures' have been mentioned for different 'Visopavisa' drugs.

(i) Gomutra Nimajjana (soaking in cow's urine) for a prescribed period (ii) Swedana (boiling) in different liquids such as cow's milk, Goat's milk, cow's urine, vegetable extractives and Kanjika etc. (iii) Bharjana (frying) with ghee or without ghee. (iv) Bhavana (Maceration / trituration), with vegetable extractives (v) Nishshehana (reducing of oily content) (vi) Ksalana (washing) with hot water. (vii) Nistvacikarana (Decortications). Among the above procedures the treatment with cow's urine and boiling in cow's milk are the most common procedures applied for almost all the 'Visopavisa' drugs. The details of the Sodhana procedures of each 'Visopavisa' drugs are shown in the Table 3²³.

Therapeutic Spectrum of Upavisha

Kupilu

Strychnos nux-vomica is widespread in its original area of distribution in India, Indo-China and Thailand and is not in danger of genetic erosion. The antimicrobial activity of N-Butanol, Methanol and aqueous leaf extract of two medicinal plants followed *Cassia agustifolia* and *Strychnos nux vomica* were tested against the human pathogenic micro-organisms, such as *Klebsiella pneumonia*, *Bacillus subtilis*, *A. niger*, *A. terreus* and *A. Flavus*²⁴. The antimicrobial potential of plants was compared according to their zone of inhibition against the several pathogenic organisms. The antibacterial activity of the herbal extracts, indicated by the size of their zones of inhibition, Activity was detected from the ethanol extract. None of the herbal extracts examined showed antibacterial against *E. coli* or *P. aeruginose* (gram negative bacteria)²⁵

Herbal extracts have a greater activity against gram positive bacteria. Identification of targets for suppression of inflammation and cancer²⁶, Pharmacologically *Strychnos nux-vomica* showed anticancer, antimicrobial, anti-inflammatory, antioxidant, and anti feederent activity, Their specific effects on gastrointestinal problem, nervous system, blood glucose level, bones cells and cardiovascular systems have been also investigated²⁷.

Snuhi

It is popularly known as Sehund, Thohar and Milk Hedge. The leaves are thick succulent, 6 to 12 inches long, ovular in shape. *E. neriifolia* hydroalcoholic extract was found to contain sugar, tannins, flavonoids, alkaloids, triterpenoidal saponin on preliminary phytochemical analysis. Several triterpenoids like glut-5-en-3b-ol, glut-5(10)-en-1-one, taraxerol and b-amyrin has been isolated from powdered plant, stem and leaves of *E. neriifolia*²⁸. Neriifolione, a triterpene and a new tetracyclic triterpene named as nerifoliene along with euphol were isolated from the latex of *E. neriifolia*²⁹ Antiquorin have been isolated from ethanol extract of fresh root of *E. neriifolia*.³⁰ Anti-inflammatory and analgesic effect of *E. neriifolia* is reported by³¹. There are reports on the mild CNS depressant, wound healing and immunomodulatory activities of the hydroalcoholic leaf extract,³² *E. neriifolia* leaves are used as aphrodisiac, diuretic and also used in the treatment of bronchitis, bleeding piles and in ano-rectal fistula³³ The plant is useful in abdominal troubles, bronchitis, tumours, leucoderma, piles, inflammation, enlargement of spleen, anaemia, ulcers, fever and in chronic respiratory troubles³⁴. The aqueous extract of the latex of *E. neriifolia* facilitated the wound healing process as evidenced by increase in tensile strength, DNA content, epithelization and angiogenesis.³⁵

Langali

Gloriosa superba, Liliaceae family is an erect, perennial, climbing herb. Tribesmen of Patakot apply the rhizome extract over the navel and vagina to induce labour and facilitate normal delivery. According to them, 250 to 500 mg of the extract may lead to abortion if given to a lady with a pregnancy of 1-2 months.³⁶ It is also used for the treatment of ulcers, leprosy, piles, inflammations.³⁷ It is used to treat intestinal worm infestations, thirst, bruises, skin problems³⁹ and snakebite³⁹. *Gloriosa superba* is used for labour induction by traditional birth attendants in India. The tests carried out on *G. superba* extract indicate that its mechanism of action was neither estrogenic nor progesterone like. However, it is early abortifacient activity appears to suggest that its activity is oxytocic. The absence of any effects on the cardiovascular parameters enhances the plant extract's safety profile in pregnancy Credence to the folkloric use of *Gloriosa superba* Linn. (Langli) in labour induction.⁴⁰

Arka

Calotropis procera is small, erect and compact shrub, which is used in several traditional medicines to cure various diseases. This shrub has been known to possess analgesic, antitumor, antihelminthic, antioxidant, hepatoprotective, anti diarrhoeal, anticonvulsant, antimicrobial, oestrogenic, antinociceptive, and anti malarial activity.⁴¹ All the parts, viz, root, stem, leaf and flowers of *Calotropis* are in common use in indigenous system of medicine.⁴² Compounds derived from the plant have been found to have emeto-cathartic and

digitalic properties. The principal active medicines are asclepin and mudarin⁴³. Other compounds have been found to have bactericidal and vermifugal properties. The latex contains a proteolytic enzyme called calotropaine.⁴⁴ An infusion of bark powder is used in the treatment and cure of leprosy and elephantiasis. It is inadvisable to use bark that has been kept for more than a year.⁴⁵ The root bark is an emetic, the flower a digestive, and a tonic is used for asthma and catarrh. Bark and wood stimulate lactation in cattle⁴⁶. Roots (extremely poisonous) are applied for snakebite. The milky sap is used as a rubefacient and is also strongly purgative and caustic. The latex is used for treating ringworm, guinea worm blisters, scorpion stings, venereal sores and ophthalmic disorders; also used as laxative^{47, 48}. Its use in India in the treatment of skin diseases, it has caused severe bullous dermatitis leading sometimes to hypertrophic scars. The local effect of the latex on the conjunctiva is congestion, epiphora and local anaesthesia^{49,50}. The twigs are applied for the preparation of diuretics, stomach tonic and anti-diarrhoeics and for asthma. Also used in abortion, as an anthelmintic, for colic, cough, whooping cough, dysentery, headache, lice treatment, jaundice, sore gums and mouth, toothache, sterility, swellings and ulcer^{51,52}. Root bark of *C. procera* exerts anti proliferative action against Hep2 cells via apoptotic and cell cycle disruption based mechanism.⁵³ The latex is used as an abortifacient, spasmogenic and carminative properties, anti dysentery, anti syphilitic, anti rheumatic, antifungal, molluscicide, diaphoretic and for the treatment of leprosy, bronchial asthma and skin affection. Different parts of the plant have been reported to possess a number of biological activities such as proteolytic, antimicrobial, larvicidal, nematocidal, anticancer, anti-inflammatory action.⁵⁴ Its flowers possess digestive and tonic properties. On the contrary, the powdered root bark has been reported to give relief in diarrhoea and dysentery. The root of the plant is used as a carminative in the treatment of dyspepsia. The root bark and leaves of *Calotropis procera* are used by various tribes of central India as a curative agent for jaundice.⁵⁵

Jaypal

The genus *Croton* belongs to the family Euphorbiaceae. The Croton oil, the essential oil of SCT, as the effective part, has been reported to have purgative, analgesic, antimicrobial, and inflammatory properties^{56,57}. It regulates the gastrointestinal transit in mice, and affects the inflammatory and immunological milieu^{58,59} croton oil causes spontaneous smooth muscle contractions in isolated rabbit jejunum and the underlying mechanisms.⁶⁰ From the leaves of *C. tiglium*, a pyrazine derivative crotonine was isolated which shows significant analgesic effects.⁶¹ *C. tiglium* has been extensively studied as the source of phorbol derivatives^{62,63} Phorbol esters have been shown to be responsible for eliciting a markable range of biochemical effects except tumour promoting^{64,65}, skin irritant effects⁶⁶ platelet aggregation⁶⁷ and cell differentiation.⁶⁸ Eight phorbol esters isolated from the *C. figlium* have the ability to inhibit an HIV induced cytopathic effect on MT-4 cells.⁶⁹ Croton oil also have anti leukemic action⁷⁰. The most investigated activity of the phorbol esters protein kinase C (PKC), which plays a critical role in signal transduction pathway and regulates the cell growth and differentiation^{71,72}. An *In-vitro* and *In-vivo* Study was done to evaluate the Antinociceptive and Smooth Muscle Relaxant Activity of *Croton tiglium* L Seed.⁷³

Dhattura

D. metel Family; Solanaceae, Phytochemical screening of *D. metel* seeds revealed the presence of alkaloids, tannins, cardiac glycosides, flavonoids and carbohydrates. Scopolamine (an alkaloid) content of the plant is higher than that of other *Datura* species. Traditionally it is used to treat conditions like mumps, rheumatism, epilepsy and leprosy.⁷⁴ Paste of its leave along with the turmeric is domestic remedy used to reduce inflammation or along with opium oil to reduce body lice.⁷⁵ Smoke of Dhattura leaves used for the treatment of respiratory diseases like asthma.⁷⁶ It is principally valued as analgesic, a remedy for violent headache, toothache and piles. Seed were used to treat vertigo, epilepsy and hydrophobia.⁷⁷ It has narcotic property.⁷⁸ It has significant role in treatment of malaria.⁷⁹ It also cures Cholera, chronic diarrhoea, intermittent fever.⁸⁰ *Datura metel* Linn The analgesic and CNS depressant property of the plant is often attributed to the presence of this alkaloid (Tyler *et al.*, 1990)⁸¹

Gunja

Abrus precatorius is a widely distributed tropical medicinal plant with several therapeutic properties. The seeds are used in various diseases like Indralupta (alopecia), Shotha (edema), Krimi (helminthes), Kustha (skin diseases), Kandu (itching), Prameha (urinary disorders)⁸² *Abrus precatorius* have high antioxidant and anti proliferative activity.⁸³ Gunja has also been reported for its antitumor⁸⁴ anticancer, anti fertility, CNS depressant and analgesic activity in experimental models,⁸⁵ anti spermatogenic, anti diarrhoeal and antihelminthic, also in treatment of ulcer and skin affections.⁸⁶

Bhallataka

Semecarpus anacardium Linn. belongs to the family Anacardiaceae, also called the "marking nut has been evaluated pharmacologically the following actions. Vadhman yoga of *S. anacardium* when administered for 4 weeks shows positive response in periarticular arthritis of shoulder, Sciatic neuralgia and early stage of rheumatoid arthritis along with spondylitis.⁸⁷ Bhallaka has been evaluated pharmacologically on the isolated tissue and the whole animal^{88,89} Anticancer, anti-inflammatory, anti arthritic and antioxidant activity have been reported in experimental animals.⁹⁰ Very few studies have been reported on hypolipidaemic, hypoglycaemic, anti atherogenic, antifungal, anti fertility and neuroprotective activity.⁹¹⁻⁹⁶ Anti inflammatory and anti arthritic activity of milk extract and chloroform extract have been documented in rats and mice.⁹⁷⁻¹⁰⁰ Oil rich fraction of water extract of nut shows inhibition of lipopolysaccharide induced nitric acid production.¹⁰¹ It has significant effect against FeSO₄ induced lipid per oxidation with alcohol extract.¹⁰² The biflavonoids from the stem bark shows dose dependant anti inflammatory activity in carageenan induced paw oedema comparable to that of ibuprofen.¹⁰³ Nut extract demonstrated antioxidant and immunomodulatory activity on the compounds of the immune system in adjuvant induced arthritis.¹⁰⁴ Effective regulation of cartilage metabolism and bone turn over in experimental model of arthritis by the nut milk extract has been demonstrated. Cytotoxic effect on the cell of P388 lymphocytic leukaemia was demonstrated by acetylated oil of

the nut.¹⁰⁵ Anti mutagenic activity has been shown by ‘Ames test’ with water, alcohol and oil extract of nut.¹⁰⁶

Karavir

Nerium oleander L. Family: Apocynaceae. It has been used to provoke menstruation, as an abortive, and as an antispasmodic in the treatment of angina pectoris. As an external medicine it is used against all kinds of skin diseases like rash, scabies, ringworm, lice, leprosy and boils, skin eruptions or irritations in herpes and to destroy maggots in wounds.¹⁰⁷ Latex, bark and roots have been used against corns, warts, cancerous carcinoma, ulcerating or hard tumours. Ethanolic extract of *Nerium oleander* elicited shows typical cardiac glycoside activity with dose-dependent increase in amplitude of contraction and increase the force of contraction of cardiac muscle.¹⁰⁸ Oleanders contain within their tissues cardenolides that are capable of exerting positive inotropic effects on the hearts of animals and humans. The cardiotoxic properties of oleanders have been exploited therapeutically and as an instrument of suicide since antiquity. The basis for the physiological action of the oleander cardenolides is similar to that of the classic digitalis glycosides, i.e. inhibition of plasmalemma Na⁺, K⁺ ATPase.^{109,110} Three oligosaccharides (OJ1–OJ3) were obtained by acid degradation of crude polysaccharides from *Nerium indicum* Mill shows anti-angiogenesis activity.¹¹¹ More recently, research has focused on the anticancer effects of oleander and its constituent compounds. Oleandrin inhibits certain kinases, transcription factors and inflammatory mediators, including tumour necrosis factor. This may provide a molecular basis for the ability of oleandrin to suppress inflammation and perhaps tumorigenesis. The authors of this *in vitro* study suggest that oleandrin may have applications for various diseases, including arthritis, but all require further investigation.¹¹²

Ahiphena

Papaver somniferum Linn. The opium obtained from the fruits is bitter, astringent, sweet, constipating, aphrodisiac, sedative, somniferous, narcotic, myotic, antispasmodic, sudorific and nervine tonic. It is useful in cough, fever, inflammatory affections of eye, otitis, proctalgia and low back pain due to diarrhoea and dysentery. It is good for internal haemorrhages, decrease secretions, restrain tissue changes and used as analgesic. It beneficial in migraine, malaria, dysmenorrhoea, cystitis, menorrhagia and other painful conditions.¹¹³ Opium (the in bspissated milky juice from immature capsules) is a soporific drug, given either alone or as an adjunct, in the preparation of various medicines. It acts on the CNS, induces sleep, relieves pain, develops euphoria and highly toxic in large doses. Opium available in the market is purified by steeping in cold water for 5-6 h. The insoluble brown latex finds application in the Ayurvedic medicine. It is prophylactic in post-operative period (50-60 mg/day). Vapours of boiling water mixed with small doses of opium, is useful in conjunctivitis. Camphorated opium (1:1) is an excellent pain killer in sprain. However, it is contraindicated for people suffering from asthma, cardiac and urinary bladder diseases. Seed oil, free from narcotic principles is useful in diarrhoea and dysentery.¹¹⁴ At the present time opium in combination with other drugs is used in diabetes. An infusion of the capsules is used as a soothing application for bruises, inflammatory swellings, sometimes in painful conjunctivitis, inflammation of ear, irritant cough and sleeplessness. The petals are bitter, expectorant, sudorific, diaphoretic, analgesic and sedative. The plant is stimulant, fattening, tonic and beautifies the complexion.¹¹⁵

Table 1: Table showing drugs of Upavisa group Enumerated in different Texts

S. No.	Name of the drug (Upavisa)	Rasar nava	R. R. S.	R. Ci.	B. P.	R. Sam. Ka.	R. K. D	Ay. P.	Y. R.	Suta Pradi	R. Tar
1	Snuhiksira	+	-	+	+	+	+	-	+	-	+
2	Arkaksira	+	+	+	+	+	+	+	+	-	+
3	Datura	+	+	+	+	+	+	+	+	+	+
4	Karavira	+	+	+	+	+	+	+	+	+	+
5	langali	+	+	+	+	Halini	+	+	+	+	+
6	Visa Musti	-	+	-	-	+	-	+	+	+	+
7	Vijaya	-	+	-	-	-	-	+	-	+	+
8	Nilaka	-	+	-	-	-	-	-	-	+	+
9	Gunja	-	-	+	+	-	+	+	+	-	+
10	Ahiphena	-	-	+	+	-	+	+	+	-	+
11	Jayapala	-	-	-	-	-	-	-	+	-	+

Table 2: Table showing the properties and their Pharmacological actions according to different texts

Properties	Pharmacological Actions	
	Charaka	Sushruta
Ruksa	Vata Kopana	Vata Kopana
Usna/Aseeta	Pitta Kopana	Pitta and Rakta Kopana
Suksma	Rakta Kopana	Penetrates all parts of the body and disturb their healthy state
Ayakta rasa	Kapha Kopana Always follows Annarasa	-
Vyavayi	Spreads all over the body	Spreads all over the body and manifests its own effects
Tiksna	Destructive to Marma	Causes Mati moha and destruction to
Vikasi	Pranaghna	Destroys Dosa, Dhatu, Mala
Lahu	Durupakrama (Untreatable)	Difficult to be treated
Vaisadya	Allow Unobstructed movement of Dosas	Causes seven purging
Asu	Spreads Quickly	Causes sudden death
Avipaki		Difficult to be digested hence may cause distress in the body for a long time

Table 3: Various Sodhana procedures for individual 'Visopavisas' mentioned by different texts

	Name of the drug	Substance used for Sodhana by different authors alongwith processes, Duration		
		Ayurveda Prakasa	Yogaratnakara	Rasa Tarangini
1	Vatsanabha	Cow's Urine (Immersion – 3 days) Cow's milk (boiling – 3 hours) Goat's milk (Boiling – 3 hours)	Gomutra (keep and dry in sunshine – 3 days)	Cow's urine (Immersion for 3 days) Goat's milk (boil – 3 hours)
2	Snuhi Ksira	-	-	Add ¼ Cinca drava and dry in sun-shine
3	Arka Ksira	-	-	-
4	Datura	Gomutra (Keep – 12 hrs and decoerticate seeds)	Gomutra (keep – 12 hrs)	Gomutra Godugdha – Boil – 3 hrs
5	Karavira	-	Godugdha (boil)	-
6	Langali	Gomutra (Keep – 1 day)	Gomutra (Keep – 1 day)	-
7	Visamusti	Ghrta (frying)	Goghrtta (frying)	Go Ghrta (Fry) Godugdha (boil – 3 hrs) Kanjika (keep – 3 days and decorticate)
8	Gunja	Kanjika (boil 3 hrs)	Kanjika (boiling)	Kanjika (boil – 3 hrs) Godugdha (boil – 6 hrs)
9	Ahiphena	Juice of Ginger (Bhavana)	Juice of Ginger (Bhavana)	Juice of Ginger (Bhavana)
10	Bhanga	Babbula Tvak Kwatha (boiling) Cow's milk (Bhavana)	Babbula Tvak Kwatha (boiling) Cow's milk (Bhavana)	Babbula Tvak Kwatha (boiling) Cow's Ghee (fry)
11	Bhallatak	-	-	Istika Curna (adding and rubbing followed by washing with water Narikelodaka Boil)
12	Jayapala	-	Cow's milk (decorticate and boil)	-

CONCLUSION

The use of traditional medicine at the primary health care level is widespread and plant-based treatments are being recommended for curing various diseases by traditional medical practitioners all over the world. The phytochemicals present in the fruits, vegetables and medicinal plants are getting attention day-by-day for their active role in the prevention of several human diseases. An elegant literary appraisal based on facts derived from 2000-year-old medical system to recent researches are indicating the unique methodology of using semi poisonous plants in treatment of various diseases and with very genuineness, these are serving a range of therapeutic objectives with inimitable approach on virtue of its unique properties. The objective of this review write up is to ascertain a bridge between traditional wisdom and current trend of treatments where progression of new pioneering invention may be utilized to fortify traditional knowledge.

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