



TRADITIONAL HERBAL REMEDIES FOR HEALTH CARE: A REVIEW

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ABSTRACT

The global health scenario is facing new challenges due to global warming and economic down-turn that are now threatening health development. It is therefore crucial that all systems of medicine whether conventional or traditional are beneficial and not deleterious to the health and well-being of the people must play their respective roles in promoting health, in preventing disease, in curing the sick, and in rehabilitating the infirm. It is through these concerted efforts that tangible gains can be achieved. Herbal medicines constitute the main component of traditional medicine, which have been used since thousands of years. They have made significant contribution to human health through their health pro-motive, curative and rehabilitative properties and in the prevention of illnesses. Indeed, many herbal remedies used traditionally have become modern medicines through drug development. Long tradition use of many herbal remedies and experiences passed on from generation to generation has brought about reliance by the people on herbal medicines. It is envisaged that this publication will be instrumental in revitalizing primary health care in empowering community participation in self-care, in promoting the application of appropriate technology that is socially and culturally acceptable to the people, in making the health system more people-centered, and in improving equitable access to national health systems.

KEYWORDS: Formulations, Herbal Medicines, Traditional Systems, Health Care.

INTRODUCTION

Traditional systems of medicines, including herbal medicines, have been used for many centuries for health care by people in countries of the South-East Asia Region as well as in other parts of the world. Traditional medicine continues to be a valuable source of remedies that have been used by millions of people around the world to secure their health. It has been developed from empirical experiences and from observations made by people who use them. The system has been inherited and handed down from one generation to the next by custom and tradition. Since the concept of "Health for All" through primary health care (PHC) was launched at the International Conference on Primary Health Care at Alma-Ata in 1978, there has been a global movement to realize universal health-care coverage. This development portends well for a more comprehensive health care delivery and health sector reform in facing new

challenges in PHC due to demographic, economic, environmental, and social changes that have a negative impact on health development [1].

The revitalization of primary health care in 2008 was yet another clarion call for governments, all health and development workers and the world community to protect and promote the health of all people. In these efforts, the rich resources of traditional and herbal remedies are available and accessible to all who choose to use them by tradition or cultural acceptance in the far and remote corners of countries or by choice of those in the affluent urban communities where there is a desire to return to nature and to use natural remedies in taking care of their own health [1,2].

Herbal Medicine

The WHO has recently defined traditional medicine (including herbal drugs) as

comprising therapeutic practices that have been in existence, often for hundreds of year, before the development and spread of modern medicine and are still in use today. Traditional medicine is the synthesis of therapeutic experience of generations of practicing physicians of indigenous system of medicine. Traditional preparations comprise medicinal plants, minerals and organic matter etc. Herbal drugs constitute only those traditional medicines which primarily use medicinal plant preparations for therapy. The earliest recorded evidence of their use in Indian, Chinese, Egyptian, Greek, Roman and Syrian texts dates back to about 5000 years. The classical Indian texts include *Rigveda*, *Atharvaveda*, *Charak Samhita* and *Sushruta Samhita*. The herbal medicines / traditional medicaments have therefore been derived from rich traditions of ancient civilizations and scientific heritage [3,4].

Why People Use Herbal Medicine

The earliest evidence of human's use of plant for healing dates back to the Neanderthal period. Herbal medicinal is now being used by an increasing number of patients who typically do not report to their clinician's concomitant use. There are multiple reasons for patients turning to herbal therapies.

In rural areas, there are additional cultural factors that encourage the use of botanicals, such as the environment and culture, a "man earth relationship". People believe that where an area gives rise to a particular disease, it will also support plants that can be used to cure it. In India vast sections of the rural population have no access to modern medicine. Hundred of primary health centers which are intended to serve rural areas, lack staff, diagnostic facilities, and adequate supplies of drugs. Medicinal plants are the oldest known health-care products and are also important for pharmacological research and drug development, not only when plant constituents are used directly as therapeutic agents, but also when they are used as basic materials for the synthesis of drugs or as models for pharmacologically active compounds [5].

WHO has compiled a list of medicinal plants which are widely used in primary health care. In July 1996, a WHO scientific group involving 100 experts from various countries around the world adopted the list which includes 28 monographs of 28 medicinal plants

originally prepared by the WHO Collaborating Centre for Traditional Medicine in Chicago, Illinois, United States of America [6].

Formulations for Primary Health Care

1. Amalaki powder for acidity and gastritis

Amalaki (Phyllanthus emblica Linn.)

The formulation is made from the dried mature fruits of *Amalaki* (Fig.1), which is a small or medium sized tree found abundantly in mixed deciduous forests and cultivated in gardens and home yards.

Main chemical constituents: Vitamin C, minerals and amino acids [7].

Method of preparation[8]: (1) Seedless dried fruits of *Amalaki* are cleaned and ground into fine powder using a grinder or pulverizer. (2) Powder is sieved through mesh 80 to remove coarse particles and fibers. (3) The powder should be kept in a dry airtight container to prevent exposure to moisture. (4) Potency of the properly preserved dried fruits lasts for one year.

Dosage form: Fine, sour-tasting grayish to blackish powder[8].

Dose and mode of administration: In adults, the dose of *Amalaki* powder is 3 to 6 grams and in children 500 mg to 1 gram, twice a day, to be swallowed on an empty stomach or just before meals with water[8].

2. Trikatu powder for common cold

Trikatu powder

Trikatu powder is a simple formulation made by mixing fine powders of three commonly used herbal drugs in equal quantity namely dry ginger (*Shunthi*), black pepper (*Maricha*) and long pepper (*Pippali*) (Fig.2).

Composition: Trikatu powder consists of fine powder of three pungent drugs viz. *Shunthi*, *Maricha* and *Pippali* in equal proportion. *Shunthi* is the dried rhizome of ginger. *Maricha* is the dried fruit of black pepper and *Pippali* is the dried fruit of long pepper [9].

Main chemical constituents of *Shunthi*: Essential oil, pungent constituents (gingerol and shogol), resinous matter and starch.

Main chemical constituents of *Maricha*: Alkaloids (piperine, chavicine, piperidine and pipartine) and essential oil.

Main chemical constituents of Pippali:

Essential oil and alkaloids (piperine, sesamin and piperlongumine).

Method of preparation: Take 50 grams of each of the three ingredients, (1) dry them further to remove the moisture for easy powdering. (2) Take an equal quantity of each drug of *Trikatu* and mix well in a dry container. (3) Grind the mixture in a grinder or pulverizer till fine powder is obtained. (4) Sieve the powder through 85 size mesh to remove the coarse fibers and other particles if any. (5) Keep *Trikatu* powder in an air-tight dry container of glass or food grade plastic; store in a dry cool place away from direct sunlight. It is good to use the powder within one year [10].

Dosage form: Blackish-brown fine powder [10].

Dose and mode of administration: Adult dose of *Trikatu* is 2 grams given three times a day preferably with warm milk or water or honey. In children the dose may be reduced according to the age and can be given in a dose of 125 mg to 500 mg thrice a day. Another way is - add *Trikatu* powder to one cup of milk, boil it for a few minutes and take it warm [10].

3. Daruharidra decoction for conjunctivitis**Daruharidra (*Berberis aristata* D.C.)**

Daruharidra (Indian berberry) is a shrub or small tree, distributed in the temperate and subtropical parts of Asia, Europe and America [11]. *Daruharidra* has been in use (as eye drops/ointment) for centuries for prophylactic as well as curative purposes in common eye ailments like conjunctivitis (Fig.3).

Main chemical constituents: Alkaloids like berberine, berbamine, arnomoline, karachine, palmitine, oxyacanthine and oxyberberine [11].

Method of preparation: (1) Soak overnight 5 grams of coarse powder of *Daruharidra* in 100 ml of water. (2) Boil the mixture till half of the water remains and filter it. (3) Use the filtrate at room temperature to irrigate the inflamed eyes [12].

Dosage form: Yellowish coloured liquid [12].

Dose and mode of administration: (1) Patient is made to lie down on the back with the neck slightly extended. *Daruharidra* is poured on the eye as thin stream with undine or with syringe without injection needle or canula. This procedure can be repeated twice or thrice in a day depending upon the severity of the

symptoms. (2) Generally the eye should be kept closed but in case of eye discharge, pulling the lids apart and irrigating the eye may be required. (3) In cases where redness and burning sensation in the eye are prominent, irrigating fluid should be cold. When pain and discharge are prominent, then lukewarm decoction should be used [12].

4. Haritaki powder for constipation**Haritaki (*Terminalia chebula* Retz.)**

Haritaki powder is a simple formulation made of its dried ripe fruits (Fig.4). The plant is also named as *Pathya*, owing to its beneficial effect for the channels (patha) of the body [13].

Main chemical constituents: Anthraquinone, glycoside, chebulinic acid, chebulagic acid [13].

Method of preparation: (1) Take dried fruits of *Haritaki*, remove their seeds and dry them further in the shade avoiding direct sunlight. Fruits should not have been harvested more than six months ago. (2) Make fine powder in a grinder or pulverizer. (3) Sieve the powder through 85 size mesh to remove coarse fibers and other particles. (4) Keep the powder in a dry and air tight plastic or glass container and consume it within six months or before the next rainy season, whichever is earlier [14].

Dosage form: Brownish fine powder [14].

Dose and mode of administration: To achieve laxative action of *Haritaki*, adult dose of powder is 3 to 6 grams and for children, the dose of *Haritaki* is 500 mg to 1 gram, to be taken with lukewarm water once a day on an empty stomach. It is preferably taken early in the morning or minimum three hours after dinner [14].

5. Pippali powder for cough**Pippali (*Piper longum* Linn.)**

Pippali powder is a single-ingredient herbal formulation made from the fruits of long pepper, an aromatic climber with perennial woody roots (Fig.5). Use of *Pippali* as a multipurpose drug is first documented in Charaka Samhita.

Main chemical constituents: Essential oil and alkaloids - piperine, sesamin and piperlongumine [15].

Method of preparation: (1) Dried long pepper fruits are cleaned and powdered in a grinder or mortar. (2) Powder is sieved through mesh of 85 size and kept in an air-tight plastic or glass container. (3) Exposure to moisture should be

avoided. It is advisable to prepare at least 50 grams of powder at a time^[16].

Dosage form: Blackish green powder with aromatic odour and pungent taste^[16].

Dose and mode of administration: The adult dose of the formulation is 1 gram to 3 grams and the children's dose is 125 mg to 250 mg, two or three times a day, mixed with honey or warm water. Honey is the best vehicle for consuming Pippali powder^[16].

6. Kutaja powder for diarrhea

Kutaja [*Holarrhena antidysenterica* (Roxb. ex Flem.)]

Kutaja powder is a simple formulation prepared from the stem bark of *Holarrhena antidysenterica*, a small to medium-sized tree, found throughout India. *Kutaja* is mentioned in the Indian Ayurvedic Pharmacopeias^[17] as well as Formulary (Fig.6).

Main chemical constituents: Conessine, conesemine, kurchine, kurchicine, etc^[17].

Method of preparation: (1) Take 50 grams of dried stem bark of *Kutaja* and further dry it in the shade to remove moisture for easy powdering. (2) Grind stem bark in a grinder or pulverizer till fine powder is obtained. (3) Filter the powder through 85 mesh to remove coarse particles and fibers. (4) The shelf life of the powder is four months but it can retain its potency for at least six months, if kept in an air tight container and protected from direct sunlight and heat^[18].

Dosage form: Bitter brownish powder^[18].

Dose and mode of administration: The adult dose of *Kutaja* powder is 3-5 g and for children 500 mg to 1 g, twice or thrice daily with warm water, before meals^[18].

7. Lashuna oil for earache

Lashuna (*Allium sativum* Linn.)

Lashuna oil comprises of cloves of garlic (Fig.7) heated in mustard oil. Both *Lashuna* and mustard oil are commonly used drugs almost in every Indian kitchen and are well known for their medicinal properties in the traditional medicine of the Asian region^[19].

Composition: *Lashuna* oil comprises of *Lashuna* and mustard oil^[19].

Main chemical constituents: (1) *Lashuna*: Volatile oil containing allyl disulphide, diallyl disulphide and also allin, allicin, mucilage and

albumin. (2) *Sarshapa* oil: Fixed oil and the glycerides of palmitic, stearic, oleic, linoleic, linolenic, eicosenoic, etc^[19].

Preparation of mustard oil with garlic:

(1) Take about 20 ml (4 teaspoonful) of mustard oil in a vessel and add 5-6 pieces of peeled and slightly crushed fresh garlic cloves. (2) Put the mixture on a slow fire for about 5 - 10 minutes till garlic becomes brown and stop further heating. (3) Filter the mixture through cotton cloth to obtain clear oil and keep it in a clean glass bottle^[20].

Dosage form: -brown oil^[20].

Dose and mode of administration: (1) Instill medicated oil in the affected ear drop by drop by tilting the head to opposite side and retain it for about 30 minutes by plugging the ear with cotton swab. (2) Repeat the process for other ear if affected. (3) Instillation of oil in the ears can be done twice daily for 2-3days^[20].

8. Shirisha powder for eczema

Shirisha (*Albizzia lebeck* Benth.)

Shirisha consists of the powder of the bark of *Albizzia lebeck*, a large, deciduous tree, which is found all over India up to 900 meters in the Himalayas. The bark of the tree (Fig.8) is thick and dark or brownish grey with numerous short irregular cracks^[21].

Main chemical constituents: Condensed tannins and d-catechin, lebbecacidin, isomers of leucocyanidin, friedelin-3-one^[21].

Method of preparation: (1) The powder of the bark is prepared by grinding dried bark in a grinder or pulverizer and then filtering it through mesh size 85. (2) The powder should be kept in a dry container and stored in a moisture-free area. Properly kept powder holds its potency for 4-6 months. (3) For making decoction, coarse powder is used. (4) It is good to use the powder within four months of its preparation^[22].

Dosage form: Grayish-brown powder or warm dark brown liquid having bitter taste^[22].

Dose and mode of administration: (1) *Shirisha* bark powder is given orally to adults in a dose of 3 to 6g and to children in a dose of 1 to 2g twice daily after meals with lukewarm water. (2) The decoction is prepared by adding 16 times water to 1g coarse powder of bark of *Shirisha* and then boiling on slow fire till about one fourth of water remains. The dose of the

freshly prepared decoction is 40ml twice a day after meals. (3) The lesions may be washed with the decoction prepared from the bark of *Shirisha*^[22].

9. *Triphala* decoction for eye discharge

Triphala decoction

This formulation is included in the Ayurvedic Formulary of India and the ingredients are described in Ayurvedic pharmacopoeia. Both *Kvatha* (decoction) and *Churna* (powder) of *Triphala* are indicated respectively for external and internal use in eye disorders. *Triphala* decoction (Fig.9) is mainly used for washing inflamed eyes with purulent discharge or as eye drops in controlling conjunctivitis^[23].

Composition: Decoction of *Triphala* is prepared by boiling together in water the coarse powder of dried fruits of the following three medicinal plants.

Main chemical constituents: *Triphala* as a whole is rich in vitamin C, gallic acid and tannins. Ingredient-wise the main chemical constituents are: *Haritaki*: *Bibhitaki* : *Amalaki* : Tannins, anthraquinones and polyphenolic compounds. Gallic acid, tannic acid and glycosides. Vitamin C, carotene, nicotinic acid, riboflavin and tannins^[23].

Method of preparation: *Triphala* decoction for cleansing eyes is prepared the following way: (1) Clean the dried fruits and remove the seeds. (2) Take the required amount of each ingredient that is sufficient for the course of treatment. For 15 days' treatment, 500 grams of each ingredient is needed. (3) Make coarse powder separately of the three dried fruits. (4) Mix together the three powders in equal amounts to form a uniform mixture. (5) Take 10 to 50 grams of the mixture for one application and soak it for about an hour in 16 times water. Then boil till half of the water remains. Filter the decoction through fine cotton cloth and keep in a clean bowl or jug. Slightly warm decoction should be used for washing eyes at the earliest after its preparation. (6) For use in children and sensitive individuals, soak 50 grams of powdered *Triphala* in 200 milliliters of hot water for half an hour, filter and use it lukewarm^[24].

Dosage form: Slightly warm, dark-brownish coloured liquid^[24].

Dose and mode of administration: Sufficient quantity of *Triphala* decoction, say about 100 to 200 milliliters, is required to wash eyes in one of the following ways: (1) Dip a small piece of sterilized cotton in slightly warm *Triphala* decoction and clean with it each eye 3-5 times from nasal side outwards; each time with separate cotton. Wipe the eyes with clean and sterilized cotton or soft cloth. Do this procedure two to three times a day. (2) Ask the patient to lie down on the back. Irrigate the open eyes, one by one, with *Triphala* decoction poured through a clean and sterilized dropper. The procedure may be done twice or thrice a day^[24].

10. *Kiratatikta* powder for Fever

Kiratatikta [*Swertia chirata* (Roxb. ex Fleming)]

Kiratatikta powder consists of dried, matured pieces of whole plant of *Swertia chirata*, (Fig.10) an erect, annual, herbaceous plant. The formulation is mentioned in classical Ayurvedic texts, Ayurvedic Pharmacopoeia and Ayurvedic Formulary of India for various types of fever^[25].

Main chemical constituents: Xanthenes, xanthone glycoside and mangiferine (flavonoid)^[25].

Method of preparation: Take dried whole plant of *Kiratatikta* and further dry it in the shade to remove moisture for easy powdering or making coarse powder for decoction. (1) Grind the material in a grinder or pulverizer until fine powder or coarse powder is obtained. (2) For obtaining the fine powder filter it through mesh size 85. Coarse powder is used as such for decoction, there is no need to filter it. (3) The shelf life of the powder is four months but it can retain its potency if kept in an airtight container and protected from direct sunlight and heat.^[26]

Dosage form: Dark-brownish bitter powder or warm, dark brownish bitter liquid^[26].

Dose and mode of administration: The dose of *Kiratatikta* powder for adults is 1-3 grams and for children it is 250 mg to 500 mg, with water. The dose of decoction for adults is 25-30 ml and for children, it is 5 ml to 10 ml, to be taken twice a day after meals^[26].

11. *Karanja* powder for fungal dermatosis

Karanja (*Pongamia pinnata* Linn. Merr.)

Karanja (Fig.11) botanically known as *Pongamia pinnata* Linn., is a medium-sized tree with a short bole and spreading crown. Seed oil is highly esteemed for medicinal purposes and is indicated for local application in scabies, herpes, leucoderma and other cutaneous diseases^[27].

Main chemical constituents: *Karanja* seeds contain fixed oil, flavones and traces of essential oil^[27].

Method of preparation: (1) Preparation of powder: Clean the dried fruits of *Karanja* by removing dust and other foreign particles. Remove the seeds from the shells and grind them into powder form. Filter the powder through sieve. Store in air-tight container, away from direct sunlight and in a cool and dry place. It is always good to use fresh *Karanja* seed powder for better results. It can be used only up to four months. (2) Preparation of oil: *Pongamia* oil is extracted by crushing seeds of *Karanja*. Purified *Pongamia* oil available in the market can also be used^[28].

Dosage form: Dusty powder and yellowish orange oil^[28].

Dose and mode of administration: (1) The adult dose of *Karanja* seed powder is 250 mg and for children the dose is 30 mg to 60 mg, to be taken orally twice daily with lukewarm water after meals. (2) Simultaneously, *Pongamia* oil is to be applied on the affected skin as per the requirement. *Pongamia* oil can be applied alone or in combination with sesame oil or neem oil^[28].

12. Pippalimoola powder for headache

Pippalimoola (Root of *Piper longum* Linn.)

Pippalimool means roots of *Pippali* (*long pepper*) plant (Fig.12). The roots are perennial, woody, and aromatic and are used in powder form with warm water, milk or preferably with *ghrita* (clarified butter)^[29].

Main chemical constituents: Alkaloids (Piperine, Piperlongumine, Piperlonguminine, etc.), essential oils^[29].

Method of preparation: (1) Take 40 grams of dried roots of *Pippali*. Dry it further for removing moisture for easy powdering. Roots should not have been collected more than one year ago. (2) Grind the roots in a grinder or pulverizer till fine powder is obtained. (3) Filter the powder through mesh size 85. (4) Keep the

powder in a dry and air-tight plastic or glass container^[30].

Dosage form: Reddish-brown to creamy-grey bitter powder^[30].

Dose and mode of administration: Dose of the powder for adults is 2 to 3 grams and for children it is 250 mg to 500 mg, to be taken twice daily, preferably on an empty stomach mixed with 3 to 5 gm of ghee or butter or honey and followed by warm water or milk^[30].

13. Chaturbhadra decoction for indigestion

Chaturbhadra decoction

Chaturbhadra decoction is a herbal formulation listed in the Ayurvedic Formulary of India for management of indigestion and indigestion-induced gastro-intestinal problems. Its ingredients are individually described in the Ayurvedic pharmacopoeia and are reported to have therapeutic properties useful for management of bowel disorders^[31].

Composition: *Chaturbhadra* decoction is made from the following four ingredients (Fig.13) in equal parts. *Aconitum heterophyllum* Wall. ex. Royle Root, *Tinospora cordifolia* (Willd.) Miers. ex. Hk.f. & Th. Stem, *Cyperus rotundus* Linn. Rhizome and *Zingiber officinale* Rosc. Rhizome^[31].

Main chemical constituents: (1) *Ativisha*: Alkaloids like atisine, dihydroatisine, hetisine, etc. (2) *Guduchi*: Terpenoids, alkaloids, etc. (3) *Mustaka*: Volatile oil. (4) *Shunthi*: Essential oil, pungent constituents: gingerols and shogaols, resinous matter and starch^[31].

Method of preparation: The decoction is prepared as follows: (1) First dry and clean all the four ingredients. (2) Make coarse powder of each ingredient. (3) Take the coarse powder of all the four drugs in equal quantity and mix properly. (4) The mixture should be stored in an air-tight container for use within one year, after which its potency is reduced. (5) Boil 10 grams of the mixture in 160 milliliters of water till one fourth water remains. (6) Filter the liquid. (7) Add 1-2 grams of fine powder of ginger (*Zingiber officinale* Rosc.) and cumin seeds (*Cuminum cyminum* Linn.) in the decoction just before taking, to make it more effective^[32].

Dosage form: Warm, light-brownish decoction^[32].

Dose and mode of administration: The dose of *Chaturbhadra* decoction for adults is 40

milliliters of freshly prepared warm decoction and 5-10 ml for children, to be administered twice a day before meals. It is advisable to sip the decoction instead of swallowing it in one lot^[32].

14. *Katuka* powder for jaundice

Katuka (Picrorhiza kurroa Royle ex Benth.)

Katuka is a perennial hairy herb grown in alpine regions with temperate climatic conditions. The rhizome (Fig.14) of the plant is a bitter tonic used for the treatment of febrile and liver disorders. Uses of *Katuka* are documented in the ancient classical texts – Charaka Samhita and Sushruta Samhita^[33].

Main chemical constituents: Glucosides: picrorhizin and kutkins (mixture of kutkoside and picroside) ^[33].

Method of preparation: (1) Take 50 grams of dried rhizomes of *Katuka*. Dry them further to remove moisture for easy powdering. Rhizomes should not have been harvested more than one year ago. (2) Grind rhizomes in a grinder or pulverizer till fine powder is obtained. (3) Filter the powder through mesh size 85 to remove coarse fibers and other particles. (4) Keep the powder in a dry and air-tight plastic or glass container and consume it before the next rainy season^[34].

Dosage form: Dusty grey fine powder.^[34]

Dose and mode of administration: The dose of *Katuka* powder for adults is one to three grams and for children 500mg to 1gram, to be taken twice daily with water, preferably after meals. Consuming the medicine on an empty stomach should be avoided as it may cause nausea and vomiting due to its highly bitter taste^[34].

15. *Ajamoda* powder for joint pain

Ajamoda (Apium leptophyllum)

Ajamoda consists of dried, aromatic fruits of *Apium leptophyllum*, an annual herb cultivated in the central and southern states of India. *Ajamoda* (Fig.15) is a well-known drug for rheumatism and gout. *Ajamoda* is one of the chief ingredients in many formulations useful in rheumatoid arthritis.

Main chemical constituents: Essential oil and fixed oil^[35].

Method of preparation: (1) Clean the dried fruits of *Ajamoda* by removing the stalks, dust and other foreign matters. (2) Grind in a

pulverizer or in a mortar and pestle to make a fine powder. (3) Filter through a fine sieve of mesh size 85. (4) Store in an air-tight container and consume within one year^[36].

Dosage form: Aromatic, slightly bitter yellowish-brown powder giving a sensation of warmth to the tongue^[36].

Dose and mode of administration: (1) The dose of the formulation for adults is 1 to 3 grams and for children 125 to 500 mg, two or three times a day, with warm water. (2) For local application as poultice, make a paste of the powdered seeds in warm water and apply on the affected joint^[36].

16. *Lodhra* powder for leucorrhoea

Lodhra (Symplocos racemosa)

Lodhra powder is a single-ingredient powder made from dried stem bark of an evergreen tree (Fig.16). The formulation is mentioned in classical Ayurvedic texts and in the Ayurvedic Pharmacopoeia of India for use in conditions with increased discharge like diarrhoea, dysentery, leucorrhoea, excessive menstrual bleeding, haemorrhagic disorders, conjunctivitis etc. ^[37].

Main chemical constituents: Alkaloids (loturine, loturidine and colloturine) and red colouring matter^[37].

Method of preparation: (1) Properly dried stem bark of *Lodhra* is cleaned first to remove foreign matters and then powdered and sieved through 85 mesh. Exposure to moisture should be avoided during preparation of the powder and it should be kept in an air-tight container in a dry place. Properly kept powder retains its potency for one year. (2) For preparing a decoction for vaginal wash, the stem-bark of *Lodhra* is cleaned and coarsely powdered. The decoction is prepared by boiling 20 to 30 grams of coarse powder of *Lodhra* bark in 300 to 500 ml of water till 100 to 125 ml remains. The decoction is filtered and the liquid thus obtained is used warm for vaginal douche. Fresh decoction should be prepared for the wash every day^[38].

Dosage form: Grayish-brown powder for oral use and decoction for vaginal wash^[38].

Dose and mode of administration: (1) *Lodhra* powder is given orally in the dose of 3 to 5 gram, twice a day, with rice water or warm water. (2) Vaginal wash with the decoction of *Lodhra* bark should be done daily for two to

three weeks till local symptoms are adequately controlled. Thereafter, only oral medication should be continued. (3) Concomitant use of powder orally and decoction for vaginal wash helps in speedy and better control of leucorrhoea^[38].

17. Dhattura paste for lice infestation

Dhattura (*Datura metel*)

Dhattura is a popular medicinal plant of India documented for its anti-lice efficacy in the classical Ayurvedic literature. *Bhavamishra*¹ describes the use of *Dhattura* seeds for the treatment of *Yuka* (lice) and *Liksha* (nits). The plant is enlisted in the Ayurvedic Pharmacopoeia of India providing pharmacopoeial standards and uses of the whole plant and seeds (Fig.17)^[39].

Main chemical constituents: Tropane alkaloids such as hyoscyamine, atropine, scopolamine, etc. and fixed oil^[39].

Method of preparation: (1) Fresh mature leaves of *Dhattura* are plucked and ground in a mortar or grinder with a little water. The juice is expressed from the ground leaves for application the same day. (2) For making a paste, dry seeds are first finely powdered and then mixed properly with an equal amount of water or mustard oil. (3) Adding mustard oil to the leaf juice or seed powder enhances the anti-lice effect of *Dhattura*. (4) The body-part, where juice or paste of *Dhattura* is to be applied should not be wet and it is better to use the medicament at night to derive optimal effect^[40].

Dosage form: Greenish juice of leaves and yellowish-brown oily powder of seeds^[40].

Dose and mode of administration: (1) The amount of leaf juice or seed powder required for application depends upon the size of the affected area. Usually 25 to 30 milliliters of leaf juice or paste of seeds, 5 to 10 grams, made with 15 to 20 milliliters of water or mustard oil is required for a single application on the scalp^[40].

18. Ashvagandha powder for malaise

Ashvagandha Powder (*Withania somnifera* Dunal.)

Ashvagandha is a perennial shrub (Fig.18), found in waste lands, cultivated fields and open grounds throughout India. Due to these very beneficial effects, *Ashvagandha* is preferred for adjuvant use in the management of various psychosomatic, infectious and drug-induced

ailments and nutritional deficiency states with malaise as a main symptom^[41].

Main chemical constituents: Alkaloids and withanolides^[41].

Method of preparation: (1) Dried roots of *Ashvagandha* are cleaned and ground into fine powder. (2) The powder is filtered through mesh size 85 to remove fibers and coarse particles and then kept in an airtight jar or polythene bag away from moisture. (3) The potency of well-preserved *Ashvagandha* powder is retained for one year^[42].

Dosage form: Cream-coloured fine powder^[42].

Dose and mode of administration: (1) The dose for adults of *Ashvagandha* powder is three to six grams and for children the dose is 500 mg to 1g to be taken twice a day, with honey or warm milk before meals. It is advisable to first mix *Ashvagandha* powder properly with an equal amount of honey and the mixture to be swallowed with sips of milk. (2) Alternatively, boil a single dose of *Ashvagandha* powder in four times milk and eight times water till milk remains. If needed, add sugar to the medicated milk and drink it lukewarm. Every dose of *Ashvagandha* powder has to be freshly boiled with milk and water^[42].

19. Shatpushpa powder for painful menstruation

Shatpushpa (*Anethum sowa* Roxb. ex Flem.)

Tribal communities use dried ripe fruits of *Shatpushpa* (Fig.19) in the form of a decoction or powder or boiled with milk alone or mixed with other herbs for female health problems resulting during menstruation and after child birth. The formulation is listed with given indications in the Ayurvedic Pharmacopoeia of India^[43].

Main chemical constituents: Essential oil, aromatic glycosides, monoterpenoid, ketodiols^[43].

Method of preparation: (1) Clean *Shatpushpa* dried fruits by removing dust and other foreign particles. (2) Grind fruits in a dry grinder or pulverizer. (3) Filter the powder through sieve with mesh size 85. (4) Store the powder in an air-tight glass or food-grade plastic container and store in a dry, cool place away from direct sunlight. (5) Soft decoction or infusion is prepared by boiling 2 to 3 grams of *Shatpushpa* in 50 ml of water until half of it remains. or, soak *Shatpushpa* fruits in 25 to 30 ml of hot

water for half an hour and then filter the contents to obtain infusion^[44].

Dosage form: Brownish powder and decoction is light brown liquid^[44].

Dose and mode of administration: Two to three grams of the powder is to be taken twice a day with warm water, preferably after meals. The powder can be mixed with an equal amount of honey and swallowed with warm water or milk^[44].

20. Palasha powder for parasitic infestation

Palasha (Butea monosperma)

Palasha (Fig.20) is a deciduous, medium-sized tree with somewhat crooked trunk and irregular branches, found in the dry deciduous forests, open grasslands and scrub forests of tropical zones. It is used as a remedy for common ailments like worm infestation, skin diseases, etc. The formulation is listed with given indications in the Ayurvedic Pharmacopoeia of India^[45].

Main chemical constituents: Fixed oil (yellow, tasteless), enzymes (proteolytic and lypolytic) and small quantities of resins and alkaloids, glucose, butrin, and palasonin^[45].

Method of preparation: (1) Clean the dried seeds of *Palasha*, and grind them in grinder or pulverizer. (2) Filter the powder through sieve mesh size 85. (3) Keep the powder in an air-tight, dry container of glass or food grade plastic and store in a dry, cool place away from direct sunlight. (4) It is always good to use fresh *Palasha* seed powder for better results. However, it can be used up to four months after preparation^[46].

Dosage form: Yellowish-brown powder^[46].

Dose and mode of administration: The dose for adults is 2 to 3 grams twice a day. Children may be given 500 mg to 1 gram of the drug twice a day. This dosage form may be given on an empty stomach for 5 to 7 days continuously with honey or jaggery, rice water, butter-milk or warm water^[46].

21. Surana powder for piles (hemorrhoids)

Surana [Amorphophallus campanulatus]

Surana powder is a simple formulation made from dried corm of *Amorphophallus campanulatus*, a stout, herbaceous plant (Fig.21) cultivated throughout the plains of India. *Surana* is mentioned in Ayurvedic

Pharmacopoeia as well as the Ayurvedic Formulary of India^[47].

Main chemical constituents: Betulinic acid, beta-sitosterol, stigmasterol, lupeol, glucose, galactose, rhamnose and xylose^[47].

Method of preparation: (1) Cut *Surana* corm into small pieces and dry them in sunlight or oven. (2) Take 50 grams of dried pieces of *Surana*. Dry them further to remove moisture for easy powdering. (3) Grind the corms in a grinder or pulverizer till fine powder is obtained. (4) Filter the powder through 85 size mesh to remove coarse fibers and other particles. (5) Keep the powder in a dry and air-tight food-grade plastic or glass container^[48].

Dosage form: Creamish-grey fine powder^[48].

Dose and mode of administration: The dose of *Surana* powder for adults is 2 to 10 grams and for children 1 to 5 grams, twice daily to be swallowed with water^[48].

22. Gandhaka ointment for scabies

Gandhaka ointment (ointment of sulphur)

Gandhaka ointment is an effective preparation made from *Gandhaka* (sulphur), *Tila* oil (sesame oil) and *Siktha* (bee wax). Both internal and external use of purified *Gandhaka* (Fig.22) is mentioned in Ayurvedic classics as well as the Ayurvedic Formulary of India^[49].

Composition: *Gandhaka* ointment comprises of *Gandhaka*, *Tila* oil and *Siktha*^[49].

Main chemical constituents: (a) *Gandhaka*: Sulphur (S₂). (b) *Tila Taila*: Fixed oil, natural lipids, glycolipids, phospholipids⁴. (c) *Siktha*: Myricin, free cerotic acid, small quantity of melissic acid and aromatic substance cerolin^[49].

Preparation of Gandhaka ointment^[50]: Step 1: Method of purification of *Gandhaka* (1) Take fine powder of *Gandhaka* in a ladle, add a little amount of clarified butter or *ghee*, melt it and pour into the vessel which contains cow's milk. (2) This process is repeated seven times. (3) Collect the purified *Gandhaka* on cooling to room temperature and wash with plenty of luke-warm water. (4) After drying, prepare the fine powder of purified *Gandhaka* and preserve it for further use. Step 2: Take the ingredients in following proportion.

Sl.No.	Ingredient Proportion	Quantity
1.	<i>Gandhaka</i> powder 1/4th part	25 grams

2.	<i>Siktha</i> (bee wax) 1 part	100 grams
3.	<i>Tila</i> oil 5 parts	500 grams

Apparatus required for preparing ointment comprises mortar and pestle, steel vessel, spoon, gas stove or heating plate, weighing balance, and thermometer. The procedure is as follows: (1) *Tila* oil is taken in a steel vessel and heated up to 130 °C and then cooled to 70° C. (2) Dissolve small pieces of *Siktha* (bee wax) into the oil with continuous stirring till a homogenous mixture called *Siktha taila* is obtained. (3) *Siktha taila* is taken in mortar and triturated with pestle adding *Gandhaka* powder till ointment-like consistency is achieved.

Dosage form: The preparation has ointment-like consistency with light-yellow colour and a peculiar strong smell^[50].

Dose and mode of administration: (1) *Gandhaka* ointment is applied externally on the affected parts of the body once or twice daily and left on the lesions for an hour or so. (2) Thereafter, the lesions should be cleaned with warm water. (3) Repeat the procedure daily for 7 to 10 days or till all the lesions disappear^[50].

23. *Kapikacchu* powder in sexual dysfunctions

Kapikacchu [*Mucuna pruriens*]

Kapikacchu is an herbaceous, and twinning annual climber found throughout India in the hills ranging up to 3000 ft. height. Most of the Ayurvedic remedies described in literature for treating sexual dysfunctions and infertility contain *Kapikacchu* seeds (Fig.23) as one of the ingredients^[51].

Main chemical constituents: *Mucuna pruriens* is a good source of L-dopa, it also contains a number of amino acids^[51].

Method of preparation: (1) Clean the dried seeds of *Kapikacchu* by removing dust and other foreign particles and grind them into a fine powder. (2) Filter the powder through 85 mesh sieve and store in an airtight glass or plastic food container, away from direct sunlight and in a cool place. (3) The potency of *Kapikacchu* powder is best retained up to four months after preparation^[52].

Dosage form: Light-brownish powder^[52].

Dose and mode of administration: Seed powder in the dose of 3 to 5 grams once a day with warm milk at night^[52].

24. *Haridra* powder and paste for sprain

Haridra (*Curcuma longa*)

Haridra (Fig.24) is a dried rhizome of a plant that grows to 2 to 3 feet in height with funnel-shaped yellow flowers. In recent studies, the three major curcuminoids found in turmeric have been found to limit the activity of chemicals and enzymes responsible for inducing and maintaining inflammation^[53].

Main chemical constituents: Curcuminoids including yellow colouring principal – curcumin, and an essential oil with high content of bisabolane derivatives^[53].

Method of preparation: (1) Take 50 grams of dried rhizomes of *Haridra* and dry them further to remove moisture for easy powdering. Rhizomes should have been harvested not more than one year ago. (2) Grind rhizome in grinder till fine powder is obtained. (3) Filter the powder through 85 mesh sieve to remove coarse fibers and other particles. (4) Keep the powder in a dry and air-tight glass or plastic container away from sunlight^[54].

Dosage form: Dusty, yellow-coloured fine powder^[54].

Dose and mode of administration: For oral use, the dose of turmeric powder for adults is 2 to 5 grams and for children it is 1 to 2 grams. The dose of fresh turmeric juice is 10 to 20 milliliters in adults and 5 to 10 milliliters in children. Normally two doses a day should be taken with water or mixed with honey^[54].

25. *Lavanga* oil for toothache

Lavanga [*Syzygium aromaticum*]

Lavanga is the dried flower bud (Fig.25) of *Syzygium aromaticum*, a tree cultivated in many parts of the world and also to a considerable extent in South India. It is an ingredient of tooth powders, gargles and chewing gums^[55].

Main chemical constituents: Eugenol, eugenol acetate and caryophyllene^[55]

Method of preparation: Clove oil is usually available in grocery and medical shops. It is prepared by water distillation of clove buds containing the desired percentage of eugenol^[55].

Dosage form: Clove oil has a warm, strong, spicy smell and the oil is colourless to pale yellow with a medium to watery viscosity^[56].

Dose and mode of use: (1) Cotton swab soaked in clove oil should be kept on the affected tooth without touching the gums. (2) Clove oil-soaked tissue paper can also be applied directly to the affected site of the tooth. It may be used 2 to 3 times a day. (3) Gargles with one to two drops of clove oil in a cup of warm water are useful as a mouth wash for toothache and gum problems^[56].

26. Gokshura powder for urinary disorder

Gokshura (Tribulus terrestris)

Gokshura is a prostrate, annual or biennial weed of the pasture lands growing in hot, dry and sandy regions in the rainy season (Fig.26). Fruits, roots and the whole plant alone or in combination with other medicinal plants are extensively used in Ayurvedic medicine for the treatment of genito-urinary disorders ranging from difficulty in urination to urinary stones and sexual weakness^[57].

Main chemical constituents: Potassium nitrate, sterols, sapogenin, diosgenin, chlorogenin^[57].

Method of preparation: Depending upon the duration of treatment take 50 to 100 grams of dried fruits or whole plant harvested not more than one year before. The raw material should be dried further by keeping it in sunlight or in a drier. Make fine powder in grinder and filter it through a 85 mesh sieve to remove coarse woody particles and fibers. Keep the powder in an airtight glass or plastic food container away from moist surroundings. Decoction of *Gokshura* is prepared by boiling 20 to 30 grams of the coarse powder of the raw material in 160 to 240 milliliters water till one fourth liquid remains. Decoction has to be prepared daily and consumed fresh same day^[58].

Dosage form: Fine, pale-coloured powder and straw-coloured decoction^[58].

Dose and mode of administration: The adult dose of *Gokshura* powder is 3 to 6 grams, twice a day, with water before meals. The dose of decoction for adults is 40 to 50 milliliters and it should be taken lukewarm^[58].

27. Ela powder for vomiting

Ela (Elettaria cardamomum)

Ela (Cardamom) is one of the common spices found in almost every Indian kitchen and is known for its medicinal properties in traditional medicine (Fig.27). This herbal drug

is described as *Sukshmaila* in the Ayurvedic Pharmacopoeia of India and is widely used by the people in self-health-care^[59].

Main chemical constituents: Essential oils (α -terpineol, myrcene, etc.)^[59].

Method of preparation: Not more than one-year-old dried cardamom (1) fruits with adequate aroma are taken in as much quantity as is required for making powder for medicinal use. Remove dust and any other foreign matter and the outer skin of the fruits before grinding the seeds to make powder. About 10 grams of seeds are sufficient for a treatment period of seven to 10 days. (2) Grind the seeds in a clean grinder or mortar to make a fine powder and filter it through a metallic sieve. It is difficult to make powder, if the seeds are not properly dried due to presence of high moisture content. The powder should not be filtered through coarse cloth as it absorbs the essential oil, which contains aromatic and bio-active chemical constituents. (3) Seed powder is then kept in a dry air-tight small bottle, away from direct sunlight where the temperature normally does not exceed average room temperature. Keeping the powder in hot surroundings should be avoided as it facilitates loss of volatile content leading to reduced therapeutic potency^[60].

Dosage form: Brownish powder with strongly aromatic odour and characteristic taste. The powder can be filled into capsules^[60].

Dose and mode of administration: Seed powder of *Ela* (Cardamom) is recommended in a dose of 250 milligrams to 500 milligrams (about 3-4 pinches), for adults and 60-120 mg for children, two to three times a day with a little warm water or any soft, sweet syrup, e.g. honey. It is advisable to consume the powder on an empty stomach or half-an-hour before eating meals^[60].

28. Haridra powder for wound

Haridra (Curcuma longa)

Haridra is dried rhizome, like that of ginger, of a perennial herb of Zingiberaceae plant family, which is extensively cultivated in all parts of India and harvested between October to April when the lower leaves of the plant turn yellow. The rhizomes (Fig.28) are boiled and then dried and the skin peeled off. Turmeric is available in the market both in raw and powder forms^[61].

Main chemical constituents: Curcuminoids including yellow colouring principal, curcumin, and an essential oil with high content of bisabolane derivatives^[61].

Method of preparation: (1) Powder of turmeric is prepared by grinding dried rhizomes in a grinder or pulverizer and then sieved through mesh size 80. The powder should be kept in a clean container and stored in a dry area away from direct sunlight. (2) Decoction of turmeric for washing wounds is made by boiling 10 grams of powder in 200 milliliters of water till one fourth

liquid remains. (3) Paste for application over the wound is prepared by mixing 5 to 10 grams of turmeric powder in an equal amount of clean water^[61].

Dosage form: Yellow-coloured fine powder, decoction, and paste^[61].

Dose and mode of administration: *Haridra* may be used simultaneously for washing the wound, application as paste on wound and orally in the following ways and dose schedule: For oral use the dose of turmeric powder for adults is 2 to 5 grams and for children it is 1 to 2 grams or juice of fresh turmeric in the dose of 10 to 20 milliliters for adults and 5 to 10 ml for children. It is administered twice daily with water or honey^[61].

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