

Review Article

Medicinal plants used as female contraceptives in India: a review

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ABSTRACT

Contraception means prevention of conception. There are a variety of modern medicines and methods are existing in accordance to their nature of use. Some medicines/methods support short period birth control, while some other gives long term birth control or permanent sterility. But all modern medicines / methods have benefits as well as side effects associated with them. On other hand, plant medicines used for female contraception provide alternate way to avoid pregnancy as which show lesser side effects. Several plants have been used to prevent conception since ancient time and pharmacological researches have proved antifertility potential of several plant medicines. In present review information of different medicinal plants used as female contraceptive is provided. Information of 116 plants for preparing 130 formulations used as female contraceptives along with, plant part used, mode of preparation of medicine, mode of administration and references of the research publication from which information such as, traditional uses and pharmacological studies have been gathered.

Keywords: Medicinal plant, Contraceptives, To prevent conception, India

INTRODUCTION

In India, rapidly growing population is one of the foremost and serious problem, as may be amplified up to major size by year 2050, this will certainly increase disproportions in the entire system of society as well as the economy of country.¹ So controlling the population size is important task of governments and the society by taking suitable birth control measures. Contraception means, a method or a procedure which allows intercourse and still avoids conception. Contraceptive methods may be used to prevent pregnancy entirely, to give gap in two pregnancies or for the time being delay pregnancy.² Several methods of contraception are in practice now a days. Each method has some benefits as well as risks associated with them. Furthermore, no any single method

is appropriate for every one and therefore, before opting any one, individual has to take experts advice.³

Contraceptive measures for women comprise, ovulation (i.e. prevent release of egg from the ovary), fertilization (i.e. fusion of egg and sperm in the oviduct), implantation (i.e. attachment of embryo to the uterus wall), etc.³ Modern contraceptives practiced now a days, have different side effects like weight gain, nausea, headache, carcinoma of cervix, breast, etc. So, it is essential to use of herbal drugs as for regulating fertility as they have biologically active substances.² Plant based drugs have drawn the attention of many as a principal source of naturally occurring fertility regulating agents due to their lesser or no side effects.⁴ In Ayurveda several contraceptives are stated as they are herbal drugs used

singly as well as used in combination. Many researches done based on Ayurvedic practices on plant based contraceptive drugs are found to be safe and has better results.⁵

India has rich heritage of plants and indigenous traditional knowledge system. Out of 45,000 species plants occur in India, about 8000 species are being used in the folk medicine system with over 1,75,000 formulations for treating various diseases/ disorders.⁶ To prevent conception herbal drugs are variable in their action. They may act to expel the fertilized ova from the fallopian tube, preventing of implantation due to disruption of hormonal balance, foetal abortion caused due to lack of supply of nutrients to uterus and the embryo.⁷

Present review provides information on the medicinal plants used to prevent conception along with the information on pharmacological studies done on those plant species.

LITERATURE RESEARCH

Present review is based on the published online or print form literature sources with the titles or key words, contraceptive plants, plants used to prevent conception or pregnancy and the papers on plants used for gynaecological disorders which reports the plants used to prevent conception or used as contraceptive and dictionary of Indian folk medicine and ethnobotany by Jain, 1991.¹⁶

Moreover, the paper given information about the pharmacological work done on the plants mentioned wherever available. Total 81 research papers and books on studies conducted in different areas of India have been considered.

The review excluded the literature sources those are specific gynaecological disorders other than contraception and to prevent conception, etc. The published literature on traditional uses based on studies conducted outside India are also excluded.

However, for information on pharmacological studies conducted on these plants all available literature is consulted.

OUTCOMES

Plants used to prevent conception or used as contraceptives are enumerated as their botanical name with family in parenthesis, local name, 'Sanskrit' and Hindi name (in parenthesis), habit, plant part/s used, method of preparation of medicine, mode of administration and dose, reference to the traditional claims and pharmacological studies (wherever available), are provided (Table 1).

DISCUSSION

Now a days controlling population particularly in developing country like India have got great importance and have drawn the attention of governmental as well as other nodal agencies. In this connection search of harmless and effective medication to prevent conception is of great importance. Plant medicines or medicament used as contraceptives is known in ancient literature.⁴ It has been very well comprehended that medicinal plants are playing a vital role in health care systems. Plant based drugs prepared using traditional methods hence, conserve all the natural substances, without missing essential constituents which maintain the purity of the drug.¹⁸ Medicinal plant formulations exhibit active ingredients which are accountable for the antifertility properties, like anti-ovulation, anti-implantation. Several plants have been tested to prevent conception based on the traditional claims.^{1,70} However, some plant-based contraceptives show cumulative effect and require to take at regular intervals or during a certain period of time. As compared to modern allopathy contraceptives, plant medicines overcome some side effects or give lesser side effects.⁸¹

Present systematic review on medicinal plants used as female contraceptives in India is based on 81 published papers or books. Total 116 plant species have been enumerated. Of which 42 are trees, 38 are herbs, 19 shrubs, 8 undershrub and 9 climbers (Figure 1).

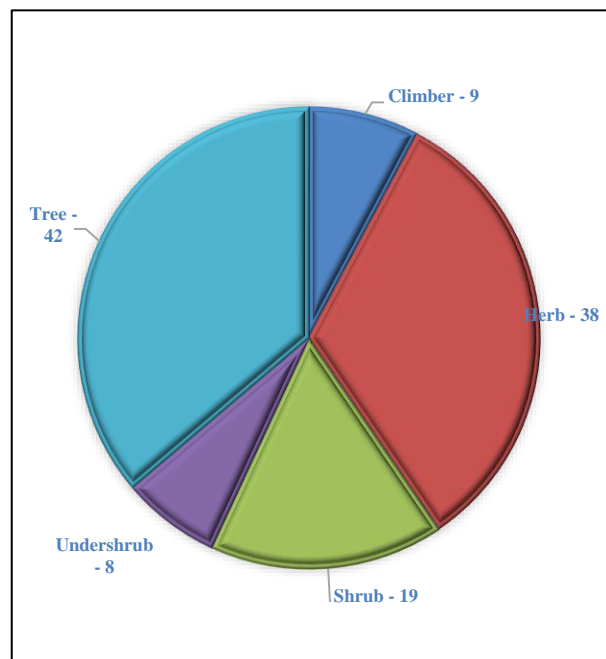


Figure 1: Habit wise distribution of plants, (n=116).

For preparing medicinal formulation different plant parts are used, however in some cases plant part is directly eaten or used. Of this maximum used in 35 formulations, then leaves used in 22 formulations, while in 21 formulations seeds are used (Figure 2).

Table 1: Details of plants used as female contraceptives.

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmacological studies
<i>Abrus precatorius</i> L. (<i>Fabaceae</i>)	Gunja (Gunchi)	Climber	Sd	Paste	Oral	Paste of white seeds without seed coat soaked in milk and given on last day of menstruation	5, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20	34, 44, 45
<i>Acacia leucophloea</i> (L.) Willd. (<i>Fabaceae</i>)	Arimedah (Safed babul)	Tree	Stbk , Lf	Powder	Oral	Given with water	14	46, 47
<i>Achyranthes aspera</i> L. (<i>Amaranthaceae</i>)	Chirchitaa (Latjira)	Herb	Wp	Paste	Oral	1 tea spoon paste given twice a day for 7 days on empty stomach.	4, 11, 21,	48, 49, 50, 77
<i>Actiniopteris radiata</i> (Sw.) Link (<i>Pteridaceae</i>)	Maurshikha (Morfunkhi)	Herb	Lf	Paste	Oral	Given with cow milk once a day for a week after menstruation	22	51
<i>Adiantum philippense</i> L. (<i>Adiantaceae</i>)	Hamsapadi	Herb	Rh	Powder	Oral	2-3 tea spoonful given with water for 5 days of menstruation	4, 22, 23,	-
<i>Aegle marmelos</i> (L.) Corr. ex Roxb. (<i>Rutaceae</i>)	Bilva (Bel)	Tree	Lf	Paste	Oral	Given with water	3, 4	51, 52
<i>Alangium salviifolium</i> (L.f.) Wang (<i>Cornaceae</i>)	Ankola (Akola)	Tree	Stbk	Extract	Oral	Given	24	48, 51, 53
<i>Allium cepa</i> L. (<i>Alliaceae</i>)	(Pyaz)	Herb	Bulb	Paste	Oral	Paste with <i>Terminalia arjuna</i> fruit and <i>Allium sativum</i> bulb in tablet form. given 2 tablets twice a day for 5 days.	4, 3, 11	54, 55, 82
<i>Alpinia galanga</i> (L.) Wild (<i>Zingiberaceae</i>)	Sugnadhama (Kulanjan)	Herb	Rh	-	Oral	-	4	-
<i>Alysicarpus vaginalis</i> (L.) DC (<i>Fabaceae</i>)	(Chauli)	Herb	Rt	-	Oral	-	16	-
<i>Amaranthus spinosus</i> L. (<i>Amaranthaceae</i>)	Tanduliya (Kataili)	Herb	Rt	Decoction	Oral	Given form 3 rd day of menstruation for 5-7 days	18, 25	48, 51
<i>Ananas comosus</i> (L.) Merr. (<i>Bromeliaceae</i>)	(Ananas)	Undersh rub	Fr	-	Oral	Unripe fruits given	4	-
<i>Annona reticulata</i> L. (<i>Annonaceae</i>)	Ramphal	Tree	Rt	Powder	Oral	Given with black pepper powder in cow milk for 15 days	20, 26	-
		Tree	Sd	Paste	Oral	Given with water after intercourse	27	-
<i>Annona squamosa</i> (L.) Merr. (<i>Annonaceae</i>)	Sharifa (Sitaphal)	Tree	Thalam us	-	Oral	-	16	51
<i>Argyrea nervosa</i> (Burm. f.) Bojer (<i>Convolvulaceae</i>)	Samrudashok	Shrub	Lf	Paste	Oral	Given empty stomach for 3 days from 4 th day of menstruation.	15	-
<i>Azadirachta indica</i> A. Juss. (<i>Meliaceae</i>)	Nimba (Nim)	Tree	Sd, Lf	Powder	Oral	3gm given daily	14, 18, 28,	56, 57, 81, 83
		Tree	Stbk	Decoction	Oral	Given with honey for 15 days after menstruation cycle	20	-

Continued.

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmacological studies
Bacopa monieri (L.) Pennell (Plantaginaceae)	Brahmi	Herb	Wp	Decoction	Oral	Given for 15 days	3, 4	49, 52
Bambusa bambos (L.) Voss (Poaceae)	Bans	Shrub	St	Extract	Oral	Tender stem extract given	29	51
Bauhinia vahlii Wight and Arn (Fabaceae)	Kanchnara (Malu)	Tree	Fr	-	Oral	-	30	-
Biophytum sensitivum (L.) DC (Oxalidaceae)	Jhulipushpa (Lawanthi)	Herb	Lf	-	Oral	-	16	42, 58
Bombax ceiba L. (Bombacaceae)	Salmali (Semul)	Tree	Stbk	Infusion	Oral	250 ml infusion given for three days	4, 29, 31,	51
Borassus flabellifer L. (Arecaceae)	Tal	Tree	Inflo male	Powder, ash	Oral	Ash with black pepper powder given with cow milk	9, 12, 20, 32,	-
		tree	Rt	Extract	Oral	Given	14, 28,	-
Bridelia crenulata Roxb (Euphorbiaceae)	(Ekdania)	Tree	Stbk	-	Oral	-	16	-
Butea monosperma (Lam.) Taub. (Fabaceae)	Palasha (Palas)	Tree	Gum	-	Oral	5-6gm mixed with cow milk given empty stomach during menstruation	10, 25	-
		tree	Sd	Paste	Internal	Mixed with honey and applied inside vagina from 5 th day of menstruation for 7 days	4, 15	-
		tree	Sd	Powder	Oral	Seeds roasted, powdered given empty stomach for 5-7 days	18	47, 48
Calotropis gigantea (L.) R. Br. Ex Ait. (Asclepiadaceae)	Arka (Aak)	Shrub	Inflo, Rt	Powder	Internal	10 gm covered in a wet cotton cloth and inserted in vagina for 30 minutes for 5 days after menstruation.	4, 33	59
		Shrub	Sd	-	Oral	-	19	-
Calotropis procera (Ait.) R.Br. (Asclepiadaceae)	Alkara (Akada)	Shrub	Rt	Paste	Oral	With root <i>Mimosa pudica</i> , tablets are prepared and given 1 tablet daily on empty stomach after menstrual cycle.	11, 25	1, 60, 54,
Cardiospermum helicacabum L. (Sapindaceae)	Karnasphota (Kanphuti)	Climber	Wp	-	Oral	-	24	42, 48
Carica papaya L. (Caricaceae)	Papita (Papeeta)	Tree	Sd	Powder	Oral	3gm with milk given twice a day early morning before food and night after food.	4, 11, 18, 33,	61
Cassia alata L. (Caesalpiniaceae)	(Eargaj)	Shrub	Rt	Decoction	Oral	Decoction with 10 gm <i>Cynodon dactylon</i> , 5 <i>Piper betle</i> leaves and 10 gm <i>Ricinus communis</i> root. Given 5 ml daily on empty stomach for 7 days after menstruation	11	

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmaco- logical studies
<i>Cassia fistula</i> L. (Caesalpinaceae)	Suvarnaka	Tree	Sd	Paste	Oral	Given with water	4, 16, 34,	1, 34, 62,
<i>Ceriscoides turgida</i> (Roxb.) Tirmeng (Rubiaceae)	(Gurman)	Tree	Rt	-	Oral	-	30	-
<i>Cissampelos pareira</i> L. (Menispermaceae)	(Akanadi)	Shrub	Lf, St	-	Oral	-	29, 30	64, 65
<i>Commiphora wightii</i> (Arn.) Bhandari (Burseraceae)	(Guggul)	Tree	Latex	-	-	-	28	-
<i>Costus speciosus</i> (Koeing) Sm (Costaceae)	Kebuka (Keu)	Herb	Sd	Paste	Oral	8-10 seeds crushed and given after intercourse	4, 27	-
<i>Crateva magna</i> (Lour.) DC (Capparaceae)	Varuna (Barun)	Tree	Stbk	-	Oral	-	19	-
<i>Crateva nurvala</i> Buch. -Ham. (Capparidaceae)	(Barun)	Tree	Stbk	Juice	Oral	Given with black pepper on 7 th day of menstruation	9, 12, 25	34, 66, 77
<i>Crescentia cujete</i> L. (Bignoniaceae)	Lauchingri	Tree	Sd	-	Oral	5-6 seeds paste given after intercourse	27	-
<i>Crotalaria juncea</i> L. (Fabaceae)	(Masina)	Undersh rub	Fl	-	Oral	-	30	49, 52
<i>Croton oblongifolius</i> Roxb. (Euphorbiaceae)	(Chuka)	Tree	Lf	Decoction	Oral	30 ml decoction given for 3 days	31	-
<i>Croton persimilis</i> Müll. Arg. (Euphorbiaceae)	(Patsan)	undershr ub	Rt	-	Oral	-	16	48, 49
<i>Curcuma longa</i> L. (Zingiberaceae)	(Haladi)	Herb	Fl	Extract	Oral	Sliced fruit is soaked overnight in water, extract given for 8 to 10 days	4, 30	51
		herb	Rh	Powder	Oral	5-6gm mixed with jaggery given during menstrual period on empty stomach	18, 25	1, 49, 80
<i>Cuscuta reflexa</i> Roxb. (Cuscutaceae)	Amarvela	Herb	Lf	Decoction	Oral	Given from 3 rd day of menstruation for 21 days	25	-
		herb	Lf, Wp	Paste	Oral	With leaves of <i>Stephania japonica</i> , Tablets are prepared, given 2 tabs twice a day on empty stomach	4, 11	-
		herb	Sd	Powder	Oral	Given with water	35	67
<i>Cyanodon dactylon</i> (L.) Pers. (Poaceae)	Hariali	Herb	Wp	-	Oral	-	19	67
<i>Cynanchum acidum</i> (Roxb.) Oken (Apocynaceae)	Somavalli (Sural)	Shrub	Rt	-	Oral	-	30	34, 51
<i>Cyperus rotundus</i> L. (Cyperaceae)	Musta (Nagarmotha)	Herb	Wp	Extract	Oral	Given	4	47, 48
<i>Datura metel</i> L. (Solanaceae)	Sadahdhatura	Shrub	Rt	Powder	Oral	One teaspoon given after menstruation for 15 days	35, 36	52, 68

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmaco- logical studies
<i>Dendrocalamus strictus</i> Roxb. (Poaceae)	Vansha (Bans)	Shrub	Rt	-	Oral	-	16	-
<i>Dendrophthoe falcata</i> (L.f.) Ettingshausen (Loranthaceae)	Vanda (Banda)	Undersh rub	Stbk	-	Oral	-	16	47, 69
<i>Desmodium gangeticum</i> DC (Fabaceae)	Anshumati (Dhrua)	Undersh rub	Wp	Powder	Oral	Given during menstrual period	18	51
<i>Dioscorea bulbifera</i> L. (Dioscoraceae)	Ralalu	Herb (Vine)	Tu	Powder	Oral	Given with water on empty stomach for 5 days during menstruation	11, 14, 18, 25, 28	42, 48
<i>Diplocyclos palmatus</i> L. (Cucurbitaceae)	Shivlingi	Climber	Sd	Powder	Oral	2-3gm given with water for 21 days after menstruation	26, 37, 38,	-
<i>Dodonaea angustifolia</i> L. (Sapindaceae)	(Vilayati mehandi)	Tree	Sd	Paste	Oral	Given	39, 40	-
<i>Dodonaea viscosa</i> (L.) Jacq. (Sapindaceae)	(Vilayati mehandi)	Tree	Lf	Paste	Oral	2 spoonsful with jaggery given for 5 days	17	51, 80
<i>Drypetes roxburghii</i> (Wall.) Hurus. (Euphorbiaceae)	Putranjivah	Tree	Fr	-	Oral	-	16	-
<i>Eclipta prostrata</i> (L.) L. (Asteraceae)	Bhringraj	Herb	Wp	-	Oral	-	30	-
<i>Enicostemma littorale</i> Blume (Gentianaceae)	Krimihrita (Chotachirayat)	Herb	Wp	Powder	Oral	With black pepper given for 2-3 months	40	-
<i>Ensete superbum</i> (Roxb.) Cheesman. (Musaceae)	Devakili (Banakadli)	Herb	Fl	-	Oral	Inner parts of flower buds given	13	-
<i>Euphorbia hirta</i> L. (Euphorbiaceae)	Dugdhika	Herb	Wp	-	-	-	4	-
<i>Ficus racemosa</i> L. (Moraceae)	Udambara (Gular)	Tree	Stbk	Juice	Oral	Fresh bark juice given	10, 32,	-
		tree	Fr	Paste	Oral	50gm given with honey for 15 days	37, 38	70, 80
<i>Ficus religiosa</i> L. (Moraceae)	Ashwathapipala (Pipal)	Tree	Lf	-	-	-	4	-
		tree	Sd	Powder	Oral	With seed powder of <i>Embelia ribes</i> , given from 5 th day of menstruation for 8-10 days	25, 18	54, 67,
<i>Gossypium harbaceum</i> L. (Malvaceae)	Kapas (Rui)	Herb	Rt	Decoction	Oral	1 tea spoon decoction is given daily for 5 days.	4, 11	51, 52
		Herb	Inflo	-	Oral	-	29	-
<i>Heliotropium indicum</i> L. (Boraginaceae)	Bhurundi (Hattajauri)	herb	Rt	Paste	Internal	With roots of <i>Amaranthus spinousus</i> applied inside vagina during menstruation	33	-
		Shrub	Fl	Paste	Oral	Paste of 3 gm flower buds with 2 ml liquor given during menstruation	2,9, 12,20, 19, 26, 29	1, 71
<i>Hypodematum crenatum</i> (Forssk.) Kuhn (Hypodematiaceae)	-	Herb	Lf	Powder	Oral	5-10 gm powder with cow milk given after menstrual period for about a week	22	-

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmaco- logical studies
<i>Indigofera linnaei</i> Ali (<i>Fabaceae</i>)	Latahai	Herb	Rt	-	Oral	-	16	-
<i>Jatropha curcus</i> L. (<i>Euphorbiaceae</i>)	Anukula (Ratanjyot)	Shrub	Sd	Paste	Oral	5 gm of paste given after intercourse	27	79
<i>Justicia adhatoda</i> L. (<i>Acanthaceae</i>)	Vasaka (Arusha)	Shrub	Lf	Powder	Oral	Given	3, 4	34, 47
<i>Lablab purpureus</i> (L.) Sweet (<i>Fabaceae</i>)	Adgulifala (Bhatvas)	Herb	Rt	-	Oral	-	16, 31	-
<i>Lawsonia innermis</i> L. (<i>Lythraceae</i>)	Mendika (Mehndi)	Shrub	Lf	Paste	Oral	With little amount of Isabgol husk, given twice daily for twenty one days after the menstruation	11, 30	51
<i>Leucas aspera</i> Link. (<i>Lamiaceae</i>)	Dronapushpi (gonamadhupati)	Herb	St, Rt	-	Oral	-	4	-
<i>Lygodium flexuosum</i> (L) Sw. (<i>Lygodiaceae</i>)	(Kalazha)	Climber	Rt	-	Oral	-	19	-
<i>Lygodium reticulatum</i> Schkuhr (<i>Lygodiaceae</i>)	-	Climber	Fronnd	Decoction	Oral	With <i>Moringa oleifera</i> root. Tablets are prepared and given daily on empty stomach after menstrual cycle.	11, 23	-
<i>Mallotus philippensis</i> (Lam) Muell (<i>Euphorbiaceae</i>)	Kamala (Rohini)	Tree	Fr	Paste	Oral	2-3 fruits paste with water given after intercourse	25, 27	78
<i>Mentha arvensis</i> L. (<i>Lamiaceae</i>)	(Pudina)	Herb	Wp	Powder	Oral	5 gm of powder given with water before intercourse	4, 41, 42	79
<i>Meyna spinosa</i> Roxb. ex-Link (<i>Rubiaceae</i>)	Pinditaka (Maniphala)	Shrub	Stbk	Decoction	Oral	100ml given after intercourse	27	-
<i>Michelia champaca</i> L. (<i>Magnoliaceae</i>)	Sonchampa	Tree	Stbk	-	Oral	-	10	54
		tree	Fl, Sd	Paste	Oral	Paste of 1 flower bud given with water for a week	4, 43	70
		tree	Rt	-	Oral	-	19	-
<i>Mimosa pudica</i> L. (<i>Mimosaceae</i>)	Lajja (lajwanti)	Undersh rub	Rt	Decoction	Oral	With stamens of <i>Hibiscus rosa- sinensis</i> boiled in milk and 10 ml given for first 5 days after menstruation	4, 16, 29, 33,	42, 49
<i>Momordica charantia</i> L. (<i>Cucurbitaceae</i>)	Sushavi (Karela)	Climber	Sd	Paste	Oral	with <i>Stephania japonica</i> stem. Tablets are prepared and given twice a day after menstruation regularly	11	48, 51
<i>Momordica dioica</i> Roxb. ex Willd (<i>Cucurbitaceae</i>)	(Bankarala)	Climber	Rt	-	Oral	-	30	76
<i>Moringa oleifera</i> Lam. (<i>Moringaceae</i>)	Shobhanjana (Munga)	Tree	Lf,	-	Oral	Fresh leaves fried with ghee and given	16, 32	72

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmacological studies
<i>Mucuna pruriens</i> (L.) DC (<i>Fabaceae</i>)	Kiwach	Climber	Sd	Powder	Oral	Powder of 3 seeds given once daily for 3 days after menstruation		51
<i>Musa paradisiaca</i> L. (<i>Musaceae</i>)	Kadali (Kela)	Tree	Fl, Rt	-	Oral	-	10, 30	-
			Sd	Paste	Oral	Tablets are prepared and given twice a day on empty stomach for 7 days.	11	73
<i>Neolamarckia cadamba</i> (Roxb.) Bosser (<i>Rubiaceae</i>)	(Kadamb)	Tree	Stbk	-	Oral	-	19	-
<i>Nephrolepis cordifolia</i> (L.) C. Presl (<i>Nephrolepidaceae</i>)	-	Herb	Rh	Extract	Oral	10-15 ml is given once during menstrual period	22, 23	-
<i>Nerium indicum</i> Mill. (<i>Apocynaceae</i>)	Karavira (Kaner)	Shrub	Rt	-	-	-	4	51
		Herb	Lf	-	Oral	-	30	-
<i>Nymphaea nouchali</i> Burm. f (<i>Nymphaeaceae</i>)	(Nilkamal)	herb	Tu	Paste	Oral	with 2 egg shells of hen & jaggery, given from 4 th day of menstruation for 7 days	15	-
<i>Oroxylum indicum</i> Vent. (<i>Bignoniaceae</i>)	Tuntuka (Sonpata)	Tree	Stbk	Paste	Oral	with <i>Coccinia grandis</i> stem, <i>Tacca laevis</i> root, <i>Lygodium flexuosum</i> leaves, given once a day on empty stomach for 7 days	11	-
<i>Oryza granulata</i> Nees et Arn. ex Steud. (<i>Poaceae</i>)	(Chawal)	Herb	Sd	-	Oral	3 seeds given from 4 th day of menstruation for 7 days	15	-
<i>Osmunda regalis</i> L. (<i>Osmundaceae</i>)	-	Undersh rub	Lf	Paste	Oral	Given with curd	22, 23	-
<i>Papilionanthe teres</i> (Roxb.) Schltr. (<i>Orchidaceae</i>)	-	Herb	Rt	-	Oral	-	19	-
<i>Pentanema indicum</i> (L.) Y. Ling (<i>Asteraceae</i>)	(Bichalu)	Herb	Rt	-	Oral	-	19, 30	-
<i>Phyllanthus emblica</i> L. (<i>Euphorbiaceae</i>)	Amlaki (Amla)	Tree	Fr	Paste	Oral	With <i>Terminalia chebula</i> , <i>Phyllanthus emblica</i> , <i>Terminalia Bellerica</i> frutis. Tablets are prepared and given one tab daily once for the one month.	11	-
<i>Piper betle</i> L. (<i>Piperaceae</i>)	Nagvalli (Pan)	Climber	Rt, Petiole	-	Oral	-	16, 19	48, 70
<i>Piper longum</i> L. (<i>Piperaceae</i>)	Pipali	Undersh rub	Rt	Powder	Oral	Given with water or milk	2	34, 49, 84
<i>Plumbago zeylanica</i> L. (<i>Plumbaginaceae</i>)	Chitraka (Chitrak)	Shrub	Rt	Extract	Oral	Extract of 100 gm of roots given after intercourse	4, 19, 25, 27, 29,	51, 52

Botanical name and (Family)	Local name Sanskrit and/ or Hindi	Habit	Part used	Mode of preparation	Mode of administration	Dose prescribed	Reference	
							Traditional uses	Pharmacological studies
<i>Plumeria rubra</i> L. (<i>Apocynaceae</i>)	Golachin	Tree	Fl, Lf	Decoction	Oral	Given from 3 rd day of menstruation for 15 days	25, 29	51
<i>Pterocarpus marsupium</i> Roxb. (<i>Fabaceae</i>)	Asana (Bijasal)	Tree	Stbk	Paste	Oral	With <i>Mitragyna parviflora</i> bark made in to pills, 4 pills given from 5 th day of menstruation for 5 days	17	-
<i>Randia dumatorum</i> L. (<i>Rubiaceae</i>)	Madana	Tree	Fr	Powder	Oral	Given twice a day with cow milk	18	-
		Tree	Lf	Juice	Oral	Given	43	-
<i>Ricinus communis</i> L. (<i>Euphorbiaceae</i>)	Eranda (Erاند)	tree	Sd	Paste	Oral	After removing seed coat paste is prepared & given during menstruation	4, 16, 18, 41, 63,	34, 51
<i>Semecarpus anacardium</i> L. (<i>Anacardiaceae</i>)	Behla (Bhilwa)	Tree	Rt	Paste	Oral	Dry fruit paste given after intercourse	16, 27	51
<i>Sesbania sesban</i> (L.) Merr. (<i>Fabaceae</i>)	Jayantika (Jayanti)	Shrub	Fl, Lf	-	Oral	-	19	49, 74
<i>Smilax wightii</i> A. DC. (<i>Smilacaceae</i>)	Jangali aushbah	Climber	Rt	-	Oral	-	30	-
<i>Smithia conferta</i> J. E. Sm. (<i>Fabaceae</i>)	(Naichibha)	Herb	Lf	-	Oral	-	16	-
<i>Spermacoce articularis</i> L.f. (<i>Rubiaceae</i>)	Madnaghanti (Ghutari)	Herb	Rt	Extract	Oral	Given	19	-
<i>Strychnos nuxvomica</i> L. (<i>Loganiaceae</i>)	Kapilu (Kajra)	Tree	Sd	Paste	Oral	Given with liquor of <i>Madhuca</i> flowers	15	-
<i>Syzygium aromaticum</i> (L.) Merr. & L. M. Perry (<i>Myrtaceae</i>)	Lavanka (Kiraambu)	Tree	Fl	-	Oral	-	19	-
<i>Tamarindus indica</i> , L. (<i>Caesalpiniaceae</i>)	Imali	Tree	Fr	-	Oral	Fresh fruit given	4, 32, 63,	-
<i>Tephrosia purpurea</i> (L.) Pers. (<i>Fabaceae</i>)	Shurphnakha (Dhamasia)	Shrub	Rt	Paste	Internal	With petiole of <i>Ricinus communis</i> and roots of <i>Datura metal</i> & applied inside vagina.	33	49, 52
<i>Thysanolaena latifolia</i> (Roxb. ex Hornem.) Honda (<i>Poaceae</i>)	(Naktura)	Herb	Rt	-	Oral	-	29	-
<i>Trichosanthes tricuspidata</i> Lour (<i>Cucurbitaceae</i>)	Kakanasa (Indrayan)	Herb	Sd	Paste	Oral	One seed's paste given after intercourse	27	75, 77
<i>Triumfetta rhomboidea</i> Jacq. (<i>Malvaceae</i>)	(Ckiki)	Undersh rub	Wp	-	Oral	-	16	-
<i>Vachellia farnesiana</i> (L.) Wight et Arn. (<i>Fabaceae</i>)	Arimeda (Gandh babul)	Tree	Rt	-	Oral	-	16	-
<i>Viscum album</i> L. (<i>Santalaceae</i>)	Gandhamadni (Badu)	Herb	Lf	-	Oral	-	19	-

*Abbreviations used: St- Stem; Rt- Root; Lf- Leaf; Fl- Flower; Inflo- Inflorescence; Stbk-Stembark; Rtbk- Rootbark; Rh- Rhizome; Tu- Tuber; Wp- Whole plant.

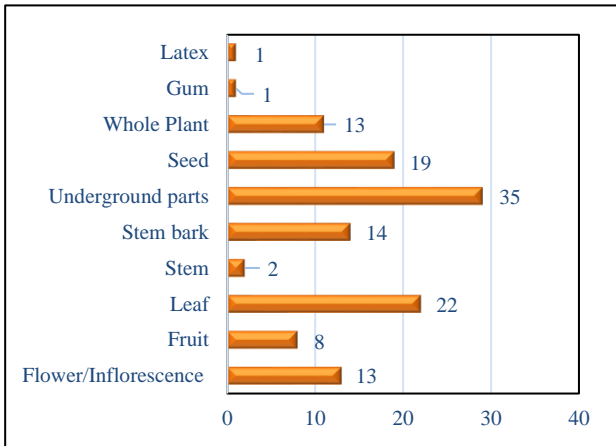


Figure 2: No. of various plant parts used in medicinal formulations.

Mode of preparation of medicine include various formulations, maximum formulations used are pastes, 25 cases as in powder form, 15 cases as an extract, in 14 cases decoction used, etc. while in 32 cases type of medication or formulations was not specified of mentioned (Figure 3). As far as mode of administration is concerned 122 medicines taken orally, 4 medicines applied internally in vagina and in 4 cases mode is not mentioned.

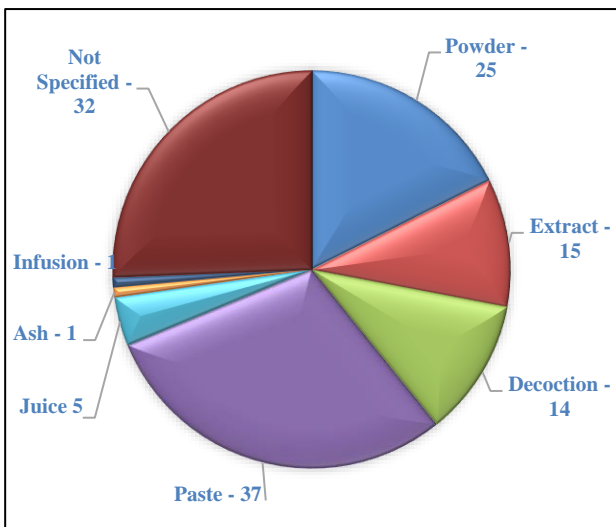


Figure 3: Mode of preparation of medicine.

Pharmacological data or information provided in the paper is gathered from 40 research publications.

CONCLUSION

The traditional knowledge about medicinal plants used by the people since time immemorial and still is being practiced in different regions of India. Since the centuries various herbal medications have been used to control or prevent pregnancy. Different texts of Ayurveda have mention of the contraceptive medicines. Several plants

have been pharmacologically tested for the same. However, using plant-based contraceptives proper prescription from expert must be taken to avoid unnecessary health problems. This review article will give leads to the researcher working for pharmacology, pharmacognosy and drug discovery programs.

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