

GARBHADHANA NIRODHAKA DRAVYAS - A REVIEW

Dr. Kowsalya R. G.*¹, Dr. Padmasaritha K.² and Dr. Ramesh M.³

¹PG Scholar, Dept of PTSR, Sri Kalabyreshwara Swamy Ayurvedic Medical College and Hospital, Research Centre, Vijayanagar, Bangalore-560104.

²Assistant Professor, Dept of PTSR, Sri Kalabyreshwara Swamy Ayurvedic Medical College and Hospital, Research Centre, Vijayanagar, Bangalore-560104.

³Professor, Dept of PTSR, Sri Kalabyreshwara Swamy Ayurvedic Medical College and Hospital, Research Centre, Vijayanagar, Bangalore-560104.

***Corresponding Author: Dr. Kowsalya R. G.**

PG Scholar, Dept of PTSR, Sri Kalabyreshwara Swamy Ayurvedic Medical College And Hospital, Research Centre, Vijayanagar, Bangalore-560104.

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ABSTRACT

Rapid population growth in developing countries is a critical issue worldwide. As such as no direct description of contraception in *samhitas*, but with the description of four factors ie *rtu* (ovulation period), *ksetra* (reproductive organs), *bija* (sperm and ovum) and *ambu* (nutrients) essential for conception, it can be inferred that if these factors are influenced artificially conception will not take place. There are so many *Ekamuliya* (single) drugs as well as *Bahumuliya* (combination) drugs which are mentioned in classical texts. Description or advice of contraceptives is one of the integral part of postnatal management. Though need of contraceptives is sometimes felt by recently married couples. The aim of this study is to gather the *garbhadhana nirodhaka dravyas* mentioned in classical texts.

KEYWORDS: Contraceptives, conception, *garbhadhana nirodhaka dravyas*.

INTRODUCTION

It was already reported that increasing population is a matter of concern in India. In an order to control the population, Indian government promotes the family planning with several means of contraceptives. An incantation in the *Rig Veda* says: "A man with many children succumbs to miseries." This is perhaps the oldest statement with a suggestion against a large family. Some local and oral contraceptives described in the ancient classics and treatises like *Yoga Ratnaakara*, *Brihat-yoga-tarangini*, *Tantra-saara-sangraha*, *Brihannighantu-ratnaakara*, *Rasa-ratna-samuchchaya* which are giving good results without side effects and those *dravyas* are easily available.

HISTORY

In *Atharvaveda*, *Brhadaranyakopanisat* and *Kausikasutra*-Prayers, Surgical measures like crushing of testis, vasectomy and hysterectomy.^[1] The first documented methods of birth control in India were

available about 2000 years ago. The first authoritative book on the subject was '*kama sutra*' by *vatsyayan*, in the early 4th century A.D. Among latter words of this nature may be mentiones in '*ratiraha-syam*' or '*kokesastra*', '*jayamangala*' and '*panchasavala*'.^[2] There are medicaments to produce sterility and infertility in both male and female.^[3] Even in other countries also there is the use of these *Ayurvedic* preparations as contraceptives. Egyptian's used vaginal plugs of gum honey. Chinese use to drink mercury & lead to control fertility, which often resulted in sterility. Africans use to drink gun powder and camel foam. Greek-Four plants were vaginally placed for contraception like pomegranate, penny royal, pine and vertex.^[4]

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There are too many more plants used as contraceptives, we can classify them according to their activity such as estrous cycle disruptors, antiestrogenic, anti-implantation, abortifacient.

Table 1: Herbal Plants acts as Antioestrogenic Agents.

S.N.	Ayurvedic Name	Latin Name	Family	Parts
1.	Aragvadh	<i>Cassia fistula</i>	Caesalpinioideae	Seeds
2.	Palash	<i>Butea monosperma</i>	Fabaceae	Root
3.	Tambul	<i>Piper betel</i>	Piperaceae	Petiole
4.	Tulsi	<i>Ocimum gratissimum</i>	Labiataeae	Stem

Table 2: Herbal Plants acts as Abortifacient Agents.

S.N.	Ayurvedic name	Latin name	Family	Parts
1.	Aristhak	<i>Sapindus trifoliatus</i>	Sappindaceae	Seeds
2.	Datura	<i>Datura metal</i>	Solanaceae	Seed
3.	Erandkarkati	<i>Carica papaya</i>	Caricaceae	Seed
4.	Grinjana	<i>Daucus carota</i>	Apiaceae	Seed
5.	Hingu	<i>Ferula narthex</i>	Apiaceae	gum resin
6.	Kalihari	<i>Gloriosa superba</i>	Liliaceae	Roots
7.	Karpas	<i>Gossypium herbaceum</i>	Malvacea	Root Bark
8.	Kumara	<i>Aloe vera</i>	Liliaceae	Fresh Leaves
9.	Indrayan	<i>Citrulus colocynthis</i>	Cucurbutaceae	Fruit

Table 3: Herbal Plants acts as Anti-implantation agents.

S.N.	Ayurvedic name	Latin name	Family	Part
1.	Arka	<i>Calotropis procera</i>	Euphorbiaceae	Root
2.	Erand	<i>Ricinus communis</i>	Euphorbiaceae	Seed
3.	Haridra	<i>Curcuma longa</i>	Zinziberaceae	Rhizome
4.	Madyantika	<i>Lawsonia inermis</i>	Lythraceae	Leaves
5.	Japa	<i>Hibiscus rosa-sinensis</i>	Malvaceae	Flower
6.	Palandu	<i>Allium cepa</i>	Liliaceae	Bulb
7.	Tulsi	<i>Ocimum sanctum</i>	Labiataeae	Leaves
8.	Uruman (khumani)	<i>Prunus armeniaca</i>	Rosaceae	Kernels

Table 4: Herbal Plants acts as Estrous Cycle Disruptors Agents.

S.N.	Ayurvedic name	Latin name	Family	Parts
1.	Vaividang	<i>Embelia ribes</i>	Myrsinaceae	Berries
2.	Nimb	<i>Azadirachta indica</i>	Meliaceae	Flowers and Seeds
3.	Karvellak	<i>Momordica charantia</i>	Cucurbitaceae	Seeds
4.	Haridra	<i>Curcuma longa</i>	Zinziberaceae	Rhizome
5.	Vyaghraerand	<i>Jatropha gossipifolia</i>	Euphorbiaceae	Seeds
6.	Durva	<i>Cynodon dactylon</i>	Graminaeae	Whole plant
7.	Amlavetas	<i>Garcinia cola</i>	Guttifereae	Seeds
8.	Patha	<i>Cissampelos pareira</i>	Menispermaceae	Leaves
9.	Chitrak	<i>Plumbago zeylanica</i>	plumbaginaceae	Leaves
10.	Shatpushpa	<i>Anethum graveolens</i>	Umbellifereae	Seeds

These are some medicinal plants having contraceptive activity, but here are some formulations described in Ayurvedic literature for contraception. The ingredients of these formulations may potentiates each other and synergistically act as contraceptives.

EKAMULIYA (SINGLE DRUG)-

- ✚ Application of *Palashabeeja* (*Butea monosperma* Seeds) churna with *ghritha* (ghee) and *madhu* (Honey) during *Ritu- kala* (Menstruating period).^[5]
- ✚ *Nimba* (*Azadirachta indica*) wood should be fumigated in the vaginal canal after the *Rtukala* (Menstruating period).
- ✚ *Dhathura* (*Datura metal*) root should be tied over the waste of women on 14th day of 1st fort night of Lunar Month. Filling the vaginal canal with the powder of *Dhathura* (*Datura metal*) before coitus.^[6]
- ✚ Use of root of *Tanduliyaka* (*Amaranthus aspera*) pasted with washings of rice for three consecutive days after menstruation makes women infertile.^[7]
- ✚ *Haridra* (*Curcuma longa*) choorna with *Sheeta Jala* (cold water) should be taken 3days during the

Rtukala (Menstruating Period).^[8]

- ✚ *Vidanga* (*Embelia ribes*) choorna with *sheetajala* should be taken from 5th day to 15th day of menstruation.^[9]

BAHUMULIYA (COMBINATION) DRUGS

- ✚ Equal quantity of powdered *Pippali* (*Piper longum*), *Vidanga* (*Embelia ribes*) and *Tankana* (*Borax*) taken along with *godhugdha* during *rtukala*.^[10]
- ✚ *Japakusuma* (Flower of *Hibiscus rosa sinensis*) macerated with *Aranala* (rice washed water) added with one *Musti* (40gms) of old *Guda* (jaggery) consumed during menstrual period.^[11]
- ✚ Equal quantity of *Talisa* (*Abieswebbiana*) and *Gairika choorna* (Red Chalk Powder) in the dose of one *karsa* with cold water on fourth day of menstruation.
- ✚ Paste of *chitraka* root (*Plumbago zeylanica*) with *nirgundi* (*Vitex negundo*) juice one *karsha* (12g) is given with honey
- ✚ Paste of *tanduliyaka* (*Amaranthus* sp.) root with *tandulodaka* (rice water) is to be given orally for 3 consecutive days after menstruation.^[12]

There are also many herbs which have been mentioned in the ancient texts and have to be scientifically tested to prove their efficacy.

Piper longum (S.N. Pippali, E.N. Indian long pepper)
Piperaceae

Rasa panchaka of *pippali*, *Rasa* is *katu*, *Vipaka* is *madhura*, *Virya* *anushnasheeta*, *Guna* *laghu*, *snigdha*, *tikshna*.^[13,14] On phytochemical screening glucosteroid, isobutylamide, piperine, chavisine, pipartine, sesamin, pipasterol, steroid, glucosteroid, piperlonguminine are found. Piperine is major alkaloid of peppers. Root powder exhibited antifertility activity.

Embelia ribes (S.N. Vaividanga, E.N. Embelia)
Myrsinaceae

Rasa panchaka of *Embelia ribes* are *Rasa Katu kashaya*, *Vipaka Katu*, *Virya Usna*, *Guna Laghu*, *Ruksha*, *Tikshna*.^[15] On phytochemical analysis Berries gave quinones, embelin, embolic acid, glycosides, saponins, tannins, and phenolic compounds. Active principles are found to be oestrogenic and weakly progestogenic.

Plumbago zeylanica (S.N. Chitraka, E.N. Lead wort.)
Plumbaginaceae

Rasa panchaka of *chitraka* is *Rasa katu*, *Vipaka katu*, *Virya usna*, *Guna laghu ruksha tikshna*.^[16] Phytochemical constituents present in *chitraka* are plumbagin, alkaloids, glycosides, simple phenolics, tannins, lignin, saponin and flavonoids. *Plumbago zeylanica* root exhibit significant anti-implantation and abortifacient.

Azadirachta indica (S.N. Nimba, E.N. margosa tree)
Meliaceae

Rasa panchaka of *nimba* are *Rasa Tikta*, *Kshaya*, *Vipak Katu*, *Virya sheeta*, *Guna Laghu*.^[17] On phytochemical analysis chemical constituents present are nimbin, nimbidin, nimbosterol, nimbidol, Volatile oils, tannins, margosin, glucoside, amino acid, calcium, Potassium, Iron. Neem oil is pressed from the bark of *Azadirachta indica* is considered as spermicidal agent when used intra vaginally.

Datura metel (S.N. Datura, E.N. thorn Apple)
Solanaceae

Rasa panchaka of *datura metel* *Rasa Tikta*, *Katu*, *Vipaka Katu*, *Virya Usna*, *Guna Laghu*, *Ruksha*, *Vyavayi*, *Vikashi*.^[18] On phytochemical analysis hyoscimine, scopolamine, hysciamine, atropine, meteolodine, nor hyosciamine constituents are found. seed extract cause cent percent anti-implantation activity.

Hibiscus rosa sinensis (S.N. Japa, E.N. Hibiscus)
Malvaceae

Rasa Panchaka of *japa* *Rasa kshaya*, *Tikta*, *Vipaka Katu*, *Virya Sheeta*, *Guna Laghu*, *ruksha*.^[19] On phytochemical analysis the constituent present in hibiscus are steroids, tannins, saponins and flavonoids. *Hibiscus rosa sinensis* possess anti-implantation activity. Flower of *japa* is

described in Bhava prakash, brhan nighantu ratnakar and Yogaratnakar to produce sterility in the women. In *Brhadyoga tarangini*, it is mentioned that if taken during the time of delivery of a child, is stated to prevent future conception

Sapindus trifoliatus (S.N. Arishtak, E.N. soap nut tree of south India)
Sapindaceae.

Rasa Panchaka of *arishtak* *Rasa Tikta*, *Katu*, *Vipaka Katu*, *Virya Usna*, *Guna Laghu*, *Tikshna*.^[20] On phytochemical analysis Saponin, sugar, oil, mukoroside, proteins are present. Saponins from *Sapindus trifoliatus* are known to be spermicidal. This spermicidal property has been used in contraceptive cream.^[21] Fruits of *Sapindus trifoliatus* are used as traditional medicine for birth control purpose.

Daucus carrota (S.N. Grinjana, E.N. carrot)
Apiaceae

Rasa panchaka of *ducas carrota* *Rasa madhura*, *kashaya*, *Vipaka madhura*, *Virya usna*.^[22] On phytochemical analysis protein, carbohydrate, carotin, vitamin B, D and C, phosphorus, iron are present. According to *Rajnighantukar* the seeds of *Daucus carrota* are *garbhpaatkrita*.^[23]

Carica papaya (S.n. Erandkarkati E.n. papaya)
Caricaceae

Rasa panchaka of *papaya* are *Rasa katu tikta*, *Vipaka katu*, *Virya usna*, *Guna laghu ruksha tikshna*.^[24] On phytochemical analysis papain, caricine, carposide glycoside, myrocine, carpasemine are present. Shri bapa lal Vaidya said that the seeds of *Carica pappya* act as abortifacient.^[25]

Cucuma longa (S.n. Haridra, E.N. turmeric)
Zingiberaceae

Rasa panchaka of *haridra* *Rasa katu* and *tikta*, *Vipaka katu*, *Virya usna*, *Guna ruksha laghu*.^[26] Chemical constituents present in *haridra* are curcumin, flavonoids and aminoacids and alkaloids. According to kucimartantra one piece of the node of the rhizome of *haridra* should be taken every day, for six days (three days during menses and three days thereafter) produce sterility.^[27]

Gloriosa superba (S.n. Langli, E.n. malabar glory lily)
Liliaceae

Rasa Panchaka of *langli*, *Rasa Katu*, *Vipaka katu*, *Virya usna*, *Guna Laghu*, *tikshna Prabhav Garbhpatana*.^[28] Chemical constituent present in *langli* are Colchicine, Gloriosine, superbine, benzoic acid, Salisilic acid, Colin, and Sugar. The root of *langli* act as abortifacient (*garbhapatni*).^[29]

CONCLUSION

It is concluded that fertility control is the need of present era. Already available methods for fertility regulation include hormonal pills, condom, intrauterine devices, skin patches etc. Several single drugs as well as compound formulations possessing antifertility activity

are mentioned in classical texts. These have been used to control the fertility and rural population of developing nations like India used these methods even now a days as they are assessable, cheap and innocuous. The validated drugs possess spermicidal, antispermatogetic, anti-ovulatory, anti-implantation, anti-estrogenic and abortifacient activity. These drugs need further evaluation to explore their pharmacological activity as well as toxicity or adverse effects. After complete satisfaction regarding their efficacy as well as safety contraceptive dosage form should be prepared in future by using these drugs.

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