

## CONCEPTS OF CONTRACEPTION IN ANCIENT INDIA & STATUS IN PRESENT SCENARIO

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### ABSTRACT

Contraception is a way of thinking and living that is adopted voluntarily up on the basis of knowledge, attitude by individuals and couples in order to promote health and welfare of a family. Interestingly none of the ancient classics like *Carakasamhitā*, *Suśrutasamhitā* or *Aṣṭāṅghrdaya* touched upon this subject. It is possible that, the society in those days had no need for controlling the population. Later scholars on *Āyurvēda* in the mediaeval period referred to a number of oral / local measures for the purpose of contraception, which was paved the way to the development of different kinds of contraceptive methods prevailing in present scenario. The present paper discusses with few of the concepts practiced in ancient India and also throws some light on research carried out in last few decades.

### Introduction

To have a healthy progeny, its proper care and bringing up them is the dream of every individual. This is possible only when the couple have less children with adequate spacing. Besides, the anxiety caused by the unwanted pregnancy can be understood only by the woman and her partner. The conception as well as the anxiety both can be easily avoided with little awareness towards the principles of fertility, methods of contraception.

The history of fertility control can be traced back to around 4000 yrs. with the discovery of prescriptions for contraception written in Egyptian papyrus. Contraception was a topic of discussion among the ancient Greek philosophers like Aristotle, Plato etc.

Careful examination of ancient classics may reveal a number of time tested principles of birth control. This will provide a vast area of research for exploration,

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which is the prime concern in present scenario. The present paper discusses with few of the concepts practiced in ancient India and also throws some light on research carried out in last few decades.

### **Definition**

Contraception is the use of a method which allows sexual intercourse and yet prevents the conception. WHO in 1971 defined it as “a way of thinking and living that is adopted voluntarily up on the basis of knowledge, attitude by individuals and couples in order to promote health and welfare of family and thus contribute effectively to the social development of the country.”

### **Methods adopted in Ancient days**

In ancient India, large population was not a socio-economic problem. Emphasis was given not only for a number of children but also to the fact that they should be healthy and wise. Hence more importance was given to the birth of *Supraja* (Healthy generation). With this view only *Lōpāmudrā*, wife of sage *Agastya* wanted to have only one virtuous son in preference to hundreds of undesirable ones. Ancient seers preferred to proceed on lines of mental discipline and ideals of birth of limited progeny and never favored uncontrolled play of passions which ultimately leads to deterioration of health. Few lines described by *Caraka* shows the interest of ancient seers about the birth of good, healthy and brilliant children.<sup>9</sup> They didn't favor the idea that unwanted children should be born who would prove burden to the society without adding wealth to it. The references specified at *Ca.Ci.* 2-1/20 also strengthen these views.

*Caraka*, *Suśruta*, *Vṛddha/Laghu Vāgbhaṭa*, *Kāśyapa*, *Bhēla* or *Śārṅgadhara* are well familiar with the physiology of conception on which the entire knowledge of contraception is based, but not mentioned the contraceptives in unequivocal terms. It is curious to note that, even if we explore the ancient texts, it is very difficult to discover a few lines representing processes of artificial family planning.

The concepts of conception mentioned by *Suśruta* and *Vāgbhaṭa* are worthwhile to be mentioned at this place.<sup>7,8</sup> The seers state that healthy *Rtukāla* (Ovulatory Period), *Kṣētra* (Field i.e. Female Reproductive System), *Ambu* (Nutrients / Hormones Etc.), *Bija* (Seed i.e. Reproductive seeds-Sperm & Ovum), *Mārga* (Channel / Passage i.e. Vaginal

Canal), *Vāyu* (Nervous system functioning) and *Hṛd* (Psychological status) are the essential factors for conception. With the description of these factors as essential for conception, it can be indirectly inferred that, if any of these factors are influenced artificially, conception will not take place.

This prehistoric knowledge paved the way to the development of different kinds of contraceptive methods prevailing in present scenario and all of them influence one or the other factors explained in ancient classics.

For Example-

<b>Modern Concept</b>	<b>Probable Comparison in <i>Āyurvēda</i></b>
1 Following "Safe Periods" Practice or coitus interrupts or abstinence	Avoiding Coitus during <i>Rtukāla</i> .
2 Anti Ovulatory Drugs / Inhibiting Spermatogenesis	Changing the normal functioning of <i>Bīja</i> .
3 Intra Uterine Contraceptive Devices	Altering the functioning of <i>Kṣētra</i> by means of mechanical devices.
4 Vaginal diaphragms / condoms / surgical methods	Mechanical barriers in the <i>Mārga</i> that prevents the union of reproductive seeds.
5 Oral pills / implants etc.	Alters the physiological status of <i>Ambu</i> .

It is very interesting to observe exhaustive explanations provided for miscarriages and abortions<sup>7</sup>, their etiological factors<sup>7</sup>, signs and symptoms<sup>7</sup> and management etc. in a systematic manner in ancient literature. Even though the seers are having thorough knowledge on this topic, they never preferred to induce artificial abortions. Besides this, a reference from *Caraka*, indicates that there were few people in the society, who are specialized in performing abortions and they are punishable for such kind of activities.<sup>9</sup> A reference from *Kauṭilya* (I-76) too advises punishments to those, who are performing abortions by means of administering drugs or by mechanical ways. Another reference at *Atharvavēda* (6-138-4) mentions about dissecting two *Nāḍī* situated above the *Vṛṣaṇa* (Testicles) as a measure of punishment for their sinful acts. This can be compared with

present day's surgical process - Vasectomy. These references through light on the wisdom of ancient physicians in the field of contraception.

### Procedures adopted in Middle Age

A number of causes like changed social heritage, degradation of morale etc. forced then the scholars to do some research in light of Contraceptives. Texts like *Gadanigraha*, *Rasaratnasamuccaya*, *Bhāvaprakāśa*, *Cakradatta*, *Bhaiṣajyaratnāvalī*, *Yōgaratnākara* etc. other books on sexology like *Kāmasūtra*, *Anaṅgaraṅga*, *Rativallabha*, *Kucumāra Tantra* etc. introduced a good number of oral / local contraceptives and few abortifacients just to avoid vulnerable social problems.

Much concentration was given towards female contraceptive methods. Regarding male contraceptives vary few references can be observed.

### Female Contraceptives

Texts like *Gadanigraha*, *Yōgaratnākara*, *Rasaratnasamuccaya*, *Bhāvaprakāśa* and *Bhaiṣajyaratnāvalī* holds a number of contraceptive descriptions. A few of them are as follows.

#### i) Local methods

- ◆ Applying the paste prepared with the seeds of *Palāśa* (*Butea frondosa*) and Honey during *Rtukāla* into vagina.<sup>2</sup>
- ◆ Vaginal insertion of *Saindhava lavaṇa* and *Taila* before coitus.<sup>2,3</sup>
- ◆ Vaginal fumigation with *Nimba kāṣṭha* (Wood of *Azadirachta indica*) during *Rtukāla*.<sup>4</sup>
- ◆ Vaginal filling with *Dhattūramūla* (Root of *Datura metel*) *Cūrṇa* before coitus.<sup>3</sup>
- ◆ Tying the root of *Dhattūra* (*Datura metel*) in waist before coitus.<sup>2,3</sup>
- ◆ Vaginal suppository prepared with of *Ikṣvāku* (*Lageria vulgaris*), *Dantī* (*Baliospermum montanum*), *Pippalī* (*Piper longum*), Jaggery, *Madanaphala* (*Randia dumetorum*), *Kiṇva* (Fermented liquid), *Yaṣṭī* (*Glyzyrhiza glabra*) and *Snuhī kṣīra* (Latex of *Euphorbia nerifolia*) induces menstrual flow.<sup>5</sup>

#### ii) Oral methods

- ◆ Administration of powdered *Pippalī* (*Piper longum*), *Viḍaṅga* (*Embelia ribes*) and *Taṅkaṇa* (Borax) with milk during *Rtukāla*.<sup>1,5</sup>

- ◆ Administration of paste prepared with of *Pāṭhā* (*Cesampelas pereira*) leaves after *Rtukāla*.<sup>5</sup>
- ◆ Administration of *Japā* (*Hibiscus rosa-sinensis*) *Puṣpa* with *Kāñjī* and *Guda* during *Rtukāla* for three days.<sup>1, 5</sup>
- ◆ Administration of *Taṇḍulīyaka* (*Amaranthus spinosus*) *mūla* with *Taṇḍulōdaka* after *Rtukāla* for three days.<sup>4</sup>
- ◆ Administration of *Tālisapatra* (*Taxus buccata*), *Gairika* (Red Ochre) and Cold water during *Rtukāla*.<sup>4</sup>
- ◆ Administration of Fried *Jyōtiṣmatī* (*Celastrus panniculata*) Leaf paste along with *Japā* (*Hibiscus rosasinensis*) *puṣpa* and water initiates the menstruation.<sup>5</sup>
- ◆ Administration of paste prepared with of *Taṇḍula* along with *Dēvadāru* (*Cedrus deodora*) and *Dūrvā* (*Cynodon dactylon*) initiates the menstruation.<sup>6</sup>
- ◆ Administration of 3 years old Jaggery for 15 days induces permanent sterility.<sup>6</sup>
- ◆ Administration of *Kaṣāya* prepared with Rice water and Root of *Citraka* (*Plumbago zeylanica*) after *Rtukāla* for three days.<sup>6</sup>
- ◆ Administration of *Vibhītakī bīja* (Seeds of *Terminalia belerica*) with *Taṇḍulōdaka* (Rice water) during *Rtukāla* for seven days.<sup>6</sup>

### iii) Abortifacients

- ◆ Insertion of *Ēraṇḍa* (*Recinus communis*) *Patradaṇḍa* in to vagina.<sup>3</sup>
- ◆ Oral administration of *Gr̥ñjana bīja* (Seeds of *Dacus carota*), *Dāḍima mūla* (Root of *Punica granatum*), *Tuvarī* (*Cajanus cajan*) and *Nāgasindūra* with water.<sup>4</sup>
- ◆ Oral administration of *Citraka mūla* (Root of *Plumbago zeylanica*) triturated with *Nirguṇḍī svarasa* (Juice of *Vitex negundo*) and *Madhu* (Honey).<sup>3</sup>
- ◆ Oral administration of Scrapped lime powder from the walls of temples with water.<sup>3</sup>
- ◆ Oral administration of *Sarṣapa* (*Brassica campestris*) *taila*, *Vatsanābha* (*Aconitum ferox*), *Ajamōḍā* (*Apium graveolens*), *Saindhava*, *Kāñjī* and faeces of horse.<sup>4</sup>

Similarly a good number of local / oral contraceptive methods are explained in recent classics, which may act as anti ovulatory or anti implantation or abortifacient agents. It is very essential to establish their actual efficacy, probable mode of action through well-designed experimental and clinical trials.

### Research in Recent times

Taking leads from the ancient classics, in recent time, exhaustive work was carried out on few plants and their phytochemical constituents, which have shown encouraging results. Few of them are:

#### A) Experimental Studies

##### i) Plants with anti fertility effect in females

- ◆ Alcoholic extract of *Cuminum cyminum* seeds showed potent anti fertility activity.
- ◆ Petroleum ether & Chloroform extracts of *Abroma angusta* roots, Benzene extract of *Achyranthus aspera*, Alcoholic extract of *Woodfordia fruticosa* flowers showed anti implantation activity in mice.
- ◆ Extracts of *Annona squamosa* seeds, Alcoholic extracts of *Crotalaria juncea* seeds showed anti fertility activity.
- ◆ Embelin isolated from *Embelia ribes* seeds was shown anti fertility effective in rats.
- ◆ A combined preparation of *Embelia ribes*, *Piper longum* and *Borax* recommended by Ayurvedic practitioners enhanced the uterine alkaline phosphatase activity in rats and guinea pigs.
- ◆ Benzene extract of *Hibiscus rosasinensis* flowers showed significant antifertility activity in rats.
- ◆ Plumbagin isolated from *Plumbago zeylanica* showed significant anti implantation, anti ovulatory and abortifacient activities.

##### ii) Plants with Abortifacient activities

- ◆ Petroleum ether & Chloroform extracts of *Abroma angusta* roots showed abortifacient activity in mice.
- ◆ Benzene extract of *Achyranthus aspera* showed significant abortifacient activity in rabbits at a single dose.
- ◆ Vasicine, an alkaloid isolated from *Adhatoda vasica* exerted an abortifacient effect in guinea pigs but not in rats.

### iii) Contraception in males

- ◆ Chloroform fraction of *Aristolochia indica* roots produced an anti spermatogenic activity in male mice.
- ◆ Gossypol of *Thespesia populnea* produced marked degenerative changes in the gonads and epididymis of male rats.
- ◆ Plumbagin isolated from the roots of *Plumbago zeylanica* administered daily for 60 days showed testicular degeneration in male dogs.
- ◆ Intramuscular administration of Saponin isolated from the fruits of *Sapindus trifoliatus* daily for 2 months caused inhibition of spermatogenesis, alteration in epididymal functionings.

In similar fashion a large number of studies have been conducted in experimental animals to evaluate the actual efficacy of age old remedies. But, unfortunately, documented data in relation with the clinical trials is very meager.

### B) Clinical Studies

Considering the gravity of the issue in view, Central Council for Research in Ayurveda and Siddha has taken up a number of studies to evaluate the efficacy of Ayurvedic formulations like K Capsule, Ayush AC-IV, *Pippalyādi yōga* (in three different doses), Ayush AC II, *Tālisādi yōga*, *Viḍāṅgādi yōga* etc.; which were proved as safe and effective in different clinical studies. Besides this, Council also tried the efficacy of *Nīma* Oil – as local Contraceptive and found encouraging results.

### Conclusion

In present scenario, a number of methods are available as fertility control measures like Oral pills, Vaginal diaphragms, Condoms, Steroidal injections, Implants, Intrauterine devices, Permanent Sterilization techniques etc. But, unfortunately none of these methods provide 100% success. On the other hand they produce a wide range of adverse effects. Keeping this in view the present generation is enthusiastically looking towards alternative systems of medicines for a safe, acceptable, efficacious contraceptive agents.

Screening of large number of plants for their anti fertility activities was carried out mostly by using different animal modules in the last few decades and shown promising activity. Interestingly, many of them even didn't produce any untoward effects. Keeping this in view; it is felt that, well designed clinical studies are very essential in re-establishing these experimental results of the herbal remedies.

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## सारांश

### प्राचीन भारत में गर्भ निरोधक की अवधारणा एवं वर्तमान परिदृश्य में इसकी स्थिति

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रहन-सहन एवं विचार का स्वयं और पति-पत्नी दोनों के व्यवहार में गर्भनिरोधक एक ऐसा रास्ता है जो स्वास्थ्य और परिवार कल्याण के स्वैच्छिक ज्ञान के आधार पर अपनाया जाता है। महत्त्वपूर्ण तथ्य यह है कि चरकसंहिता, सुश्रुतसंहिता और अष्टांगहृदय जैसे प्राचीन साहित्यों में इस विषय को स्पर्श भी नहीं किया गया, यह संभव हो सकता है कि उन दिनों समाज में जनसंख्या वृद्धि की समस्या नहीं रही होगी। बाद में मध्यकाल के दौरान आयुर्वेदाचार्यों ने गर्भनिरोधक के लिये कई मौखिक और सामान्य मापक संदर्भित किये जिन्होंने वर्तमान समय में चल रही गर्भनिरोधक विधियों के विकास की राह के निर्माण का कार्य किया। इस शोध पत्र में प्राचीन भारत में व्यवहृत कुछ अवधारणाओं पर चर्चा की गई है एवं हाल ही के दशकों में हुए शोध पर प्रकाश डाला गया है।