

# METHODS FOR STERILIZATION AND CONTRACEPTION IN ANCIENT AND MEDIEVAL INDIA

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In ancient and medieval India, population growth was not a problem. A family without children, specially without a son, did not enjoy respect from the society. But there are authentic references to prove that people in those days had a liking to have a small and happy family. Only one son of noble character was preferred to many sons without such character. That apart certain categories of people did not like to have children. Sexual abstinence was the important weapon to achieve this but this was not always possible to practise. People used *mantras*, talisman, mechanical devices, oral and local drugs and such other drugs and such other artificial devices to prevent conception after conjugation. Even vasectomy, removal of uterus and intra-uterine contraceptive devices were practised in those days.

In ancient India population growth was not a problem, rather the need for the day was to increase the population. It was a moral, social as well as religious obligation for people to have more progeny and man without a child, specially without a son, was treated as sinful and inauspicious. It is a common knowledge that early people scorned sterility. On the other hand, a man with more children was respected and had a respectable place in the society.<sup>1</sup>

To have more children was not always an unmixed blessing. If children cannot be fed and brought up properly due to poverty, in that case it is suggested to have less children. An incantation in the *Rgveda* had advanced the view: 'A man with many children succumbs to miseries.'<sup>2</sup> This is probably the oldest statement suggesting against a large family. To have one enlightened son is better than to have hundreds of illiterate sons. Like the solitary moon he strives and removes darkness which is not possible by

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hundreds of stars.<sup>3</sup> It is with this in view that Lopāmudrā wanted to have only one virtuous son in preference to hundreds of undesirable ones.<sup>4</sup>

In ancient classics on religion, medicine and sexology much emphasis has been laid on preservation of *sukra* or seminal fluid. Semen when preserved in the body promotes strength, complexion, longevity and the power of resistance to diseases and decay.<sup>5</sup> Except for the sole purpose of procreation, specially of a male child, sexual union is proscribed. Sexual act is a part of the *dharma* or ritual which is to be performed following a prescribed procedure, and *mantras* are described for each stage of it. Sexual act is to be performed during certain days after menses. Some *tithis* (days of the lunar or solar month) like *amāvasyā* (new moon days) and *aṣṭamī* (8th day of lunar month) are held to be inauspicious for this purpose.<sup>6</sup> Similarly, sexual act is prohibited when guests, superiors, etc., are present in the house or on days like *śrāddha*. One should marry after his study, that is 25 years of age, and married life is to be continued up to 50 years of age only, and not thereafter.<sup>7</sup> These religious prescriptions had, in the past, helped in spacing the progeny and limiting their number.

#### HISTORICAL REVIEW

Man's attempt to control the increase in his number dates back to dim past and it is impossible to discuss its real origin. In virtually every culture which is of historical importance as also in Hindu *dharma* of India, there existed a desire for birth-control by natural as well as artificial means.

Use of contraceptives as one of the methods of preventing conception is a social practice of much greater historical antiquity, greater cultural and geographical universality than commonly supposed by medical and social historians. It will be seen from the descriptions in the *Atharvaveda*<sup>8</sup> (2000 B.C.) and also in the *Bṛhadāraṇyakopaniṣat*<sup>9</sup> (1500 B.C.) that the desire for, as distinct from, the achievement of reliable contraception has been characteristic of many societies widely removed in time and space. This desire for controlled reproduction characterized even those societies dominated by religious codes demanding that people should 'multiply and increase'. Men and women have always longed for both fertility and sterility, each at its appointed time and in its chosen circumstances. This has been a universal aim, whether people have always been conscious of it or not.

The written history of contraception and anti-fertility measures goes as back as to the days of the *Atharvaveda* (2000 B.C.) and the *Bṛhadāraṇyakopaniṣat* (1500 B.C.). In these two works and also in *Kaṭhikasūtra*, there are references to prayers, surgical measures like crushing the testicles, vasectomy and hysterectomy, and medicaments for producing sterility and infertility both in the male and female. This has recently been reported in detail.<sup>10</sup>

During the period of epics (*purāṇayuga*, 1000 B.C.), there is the mention of contraceptive measures in *Garuḍapurāṇa*. In Āyurvedic classics, namely *Caraka* and *Suśruta*, references to artificial infertility and contraception are not available. Only an indirect reference regarding the spacing of children is available in the latter. A child born before the sixth year of the birth of the previous child is considered to have a short span of life.<sup>11</sup> Even in *Kāmasūtra* of Vātsyāyana (300 B.C.) there is no reference to the methods of contraception. References to oral as well as local contraceptives are, however, available in some of the works composed during and after the eighth century A.D. They are: (i) *Brhadyogatarāṅgiṇī* (A.D. 800), (ii) *Ratirahasya* (A.D. 800), (iii) *Rasaparakāśasudhākara* (A.D. 1300), (iv) *Pañcasāyaka* (A.D. 1400), (v) *Smāradīpikā* (A.D. 1400), (vi) *Rasaratnasamuccaya* (A.D. 1400), (vii) *Ratimañjarī* (A.D. 1500), (viii) *Kandarpacūḍāmaṇi* (A.D. 1577), (ix) *Anaṅgarāṅga* (A.D. 1600), (x) *Bhāvaprakāśa* (A.D. 1600), (xi) *Yogarātnākara* (A.D. 1600), (xii) *Yogarātnasamuccaya* (A.D. 1800), (xiii) *Bṛhannighaṇṭurātnākara* (A.D. 1900) and (xiv) *Bhaiṣajyaratnāvalī* (A.D. 1900).

In some of the tantric texts, namely *Uḍḍāmareśvaratantra* and *Tantrasārasaṅgraha*, methods for producing infertility are also described. In astrological texts, viz. *Brhatjātaka* of Varāhamihira, certain planetary positions at the time of menses and coitus are described to determine whether there will be conception or not.<sup>12</sup>

Disproportionate attention has often been focussed on abortion and infanticide for limiting undue number of children and a relatively little heed has been paid to the more elusive evidence bearing on widespread and consistent groping towards artificial control of child-birth by preventive measures. Advances made in the process of civilization are for ever characterized by economy of efforts. Abortion and infanticide are conspicuous examples of extravagant waste. If progress means anything, it means prevention curtailing destruction. Techniques are older than formulated recorded evidence. Man usually acts and then justifies the result of his observations. Contraception is no exception to it. Thus, it can be safely said that the different techniques for contraception were formulated in this country before the days of the *Atharvaveda* whatever the purpose may be.

#### METHODS FOR REDUCING CHILD-BIRTH

The chief preventive or birth-limiting measures in ancient Indian society were the following:

##### 1. Observance of celibacy

Certain categories of individuals of the society, viz. priests and *mahantas* (managing heads of religious endowments), were required to lead a bachelor's life and marriage was prohibited for them. Similarly, people who had crossed

*gr̥hasthāśrama* and entered *vānaprasthāśrama* (after the fiftieth year of age), or *yativratāśrama*, were required to live a non-conjugal life. Even otherwise observance of celibacy was held in high esteem as the giver of healthy, happy and long life. This had an indirect effect on the control of population. In certain disease conditions like tuberculosis and ulceration, sexual intercourse is strictly prohibited and the patient is advised to observe *brahmacarya*.

## 2. Delay in marriage

In religious scriptures, *gūhyasūtras*, *smṛtiśāstras* and allied literature dealing with rules and regulations for the society as well as the individual, a certain age limit has been fixed both for men and women for marriage. In ancient days, the *varṇāśrama* system had made it incumbent upon individuals, specially those called *dvijas* (twice-born individuals), viz. *brāhmaṇas*, *kṣatriyas* and *vaiśyas*, to marry only after the completion of their professional education during *brahmacaryāśrama*.

## 3. Prevention of widow marriage

Even though in certain religious scriptures widow marriage is prescribed, in most of them a suggestion for a widow to marry is looked down as scornful and any sexual act with a widow is treated as sinful.

## 4. Prohibition of conjugation in certain days

Sexual intercourse is prohibited for the first four days after the appearance of the menstrual flow as well as on the 8th, 14th and 15th days of both the fortnights—light and dark, on the anniversary days of the dead parents, night previous to the anniversaries, on *saṁkrānti* (the passage of sun or other planetary bodies from one sign of the zodiac to another), in the day-time, at midnight and during eclipse, among others.

## 5. Sex taboos limiting the frequency of connection

Apart from the religious restriction for sexual intercourse, in ancient medical classics, certain seasons of the years like *ādānakāla* (time of absorption—January to June) are said not to be conducive for sexual intercourse as this may seriously affect the health of the individual.

## 6. Period of lactation

Mother's milk is described as the best food for the child. But if the mother is pregnant her milk should not be given to the child, as among other things, it may cause serious diseases like *pārigarbhika* in the latter.

The above religious and medical prescriptions indirectly help limiting the population. Apart from these, there are other methods mentioned in

these classics which have direct bearing on limiting the population. They can be broadly classified into two categories:

- I. Prevention of conception both by natural and artificial means.
- II. Inducing abortion or miscarriage.

Techniques prescribed for the prevention of conception can be classified into the following broad categories:

- (i) Natural including mechanical devices.
- (ii) Use of magical devices including talisman.
- (iii) Use of *mantras*.
- (iv) Local contraceptives.
- (v) Oral contraceptives for males.
- (vi) Oral contraceptives for females.

(i) *Natural including mechanical devices*

Apart from instructions furnished in the religious and medical scriptures described on pages 10-11, which have an indirect bearing on limiting the population, other natural methods and mechanical devices have been described in works on sexology. According to *Ratirahasya* the individual at the time of sexual enjoyment (orgasm) should press firmly with the fingers at the forepart of the testicles (base of urethra) and turn the mind to other things. He is also advised to hold his breath while doing so.<sup>13</sup> All these three factors are described to delay the ejaculation of semen. The first process, i.e. pressing the base of urethra at the time of orgasm, may result in the entrance of the semen ejaculated during the process of coitus into the urinary bladder. Thus, the semen would not enter into the genital tract of the woman and there will be no conception. The semen which enters into the urinary bladder will come out of it at the time of micturition subsequently. Thus, along with prolonging the sexual act, this procedure serves the purpose of contraception.

(ii) *Use of magical devices including talisman*

Root of *dhustura* (*Datura metel* Linn.) is to be collected during the 14th day of *kṛṣṇapakṣa* (black fortnight). This root is to be tied into the waist of the female during intercourse. This will prevent conception. When this root is untied there will be conception by sexual intercourse. This is described in *Rasaratnasamuccaya*.<sup>14</sup> This is also described in *Yogatarāṅgiṇī*<sup>15</sup> and *Hara-mekhalā*<sup>16</sup> in a slightly different way. The root of *dhustura* according to them is said to be collected during the month of *pauṣa* (approximately January).

Magical devices are also described to produce sterility in males. In *Ratirahasya* the semen of the individual is described to be collected in a leaf of *Alaktaka* (?) covered with the barks of *bahuvādra* (*Betula utilis* D. Don.) and tied to the feet of the bedstead.<sup>17</sup> This is said to cause sterility in male.

For the prevention of the emission of semen during or after coitus the following recipes and methods are also prescribed in *Ratirahasya*<sup>18</sup> and *Haramekhalā*.<sup>19</sup>

- (1) The root of the white variety of *sarapūṅkhā* (*Tephrosia purpurea* Pers.) should be made to a paste with milk of banyan tree and kept inside the seed of *karañja* (*Caesalpinia crista* Linn.). This seed should be kept in mouth during coitus.
- (2) During coitus one should firmly press the *anus* and think of *omkāra* of the shape of a tortoise having black colour up to the head.
- (3) The root of the white variety of *sarapūṅkhā* (*Tephrosia purpurea* Pers.) along with mercury.
- (4) The bone of *jalakukkūṭa* (water fowl) may be used for this purpose.
- (5) Root of *kapikacchū* (*Mucuna prurita* Hook.) and the root of *durālabhā* (*Fagonia cretica* Linn.) may also be used for this purpose.
- (6) The tooth of a boar should be tied up with the hair from the right hand of the man, trunk of the elephant and tail of the horse. This should be tied to the right hand of the man.
- (7) Right-side bone of a black cat should be tied to the waist of the man.
- (8) Seeds of *saptacchada* (*Alstonia scholaris* R. Br.).
- (9) The root of *lajjālu* (*Mimosa pudica* Linn.) should be made to a paste by rubbing with the goat's milk and also the milk of *snuhī* (*Euphorbia nerifolia* Linn.). This paste should be applied over the sole of feet.
- (10) The root of *vāruṇī* (*Citrullus colocynthis* Schrad.) should be made to a paste and applied over the pudendum.
- (11) The pudendum of the man should be massaged with the oil of *kusumbha* (*Carthamus tinctorius* Linn.) or the powder of *barṣābhū* (*Boerhaavia diffusa* Linn.). These two can also be applied over the sole of foot for the same purpose.
- (12) The egg of sparrow, mixed with buffalo milk, *sahadevī* (*Vernonia cinerea* Less.), gingili, honey, pollen grains of white lotus, all in equal quantity, should be applied over the umbilicus of the man.
- (13) A paste prepared of the root of white variety of *kākajāṅghā* (*Leea aquata* Linn.), pollen grains of lotus and honey should be applied over the umbilicus of the individual.

### (iii) Use of mantras

As has been mentioned earlier many *mantras* or incantations are described in the *vedic* as well as the *upaniṣadic* literature for producing sterility in men and women. Some of these *mantras* are in the form of prayers to

God or to different trees. Some of the other *mantras* are in the form of suggestions. Such references are available in plenty in the *Atharvaveda* as also in the *Bṛhadāraṇyakopaniṣat* and of late *Tantrasārasaṃgraha*.<sup>20</sup>

(iv) *Local contraceptives*

In *Yogarātnākara*<sup>21</sup> and *Bṛhadyogātaraṅgiṇī*,<sup>22</sup> the woman is asked to get her genital tract fumigated with the smoke of margosa wood by burning it. This is to be done after the stoppage of menstrual flow. This is described to prevent conception. In *Tantrasārasaṃgraha*<sup>23</sup> this reference occurs in a slightly different way. The fumigation is suggested to be done during the period of *ṛtu* (menstrual period or period of fertilization).

The very common technique which is even now practised in certain parts of the globe for contraception is also described in *Yogarātnākara*,<sup>24</sup> *Bṛhadyogātaraṅgiṇī*<sup>25</sup> and *Bṛhannighaṇṭurātnākara*.<sup>26</sup> A piece of rock-salt smeared with *tīl* oil should be kept in the vaginal tract of the female before coitus. This is described to prevent conception. In *Bṛhadyogātaraṅgiṇī*<sup>27</sup> there is another reference in this connection. After coitus, a *poṭṭalikā* (tampoon) consisting of rock-salt and oil should be inserted into vaginal tract which will work as a contraceptive. *Rasarātnasamuccaya* has elucidated the mechanism of action of rock-salt in preventing conception. According to him the *śukra* (sperm) gets dissolved or broken into pieces by coming into contact with the rock-salt smeared with oil. This will not stop menstruation but will only prevent conception, even during the time of fertility. By implication, this local contraceptive does not in any way affect the ovulation process of women but incapacitates sperm which otherwise would have got united with the ovum to cause pregnancy. In *Haramekhalā*<sup>28</sup> a piece of rock-salt smeared with oil is stated to be kept at the mouth of the uterus, i.e. *cervix* (*garbhāśaya-vadana*) for preventing conception.

According to another reference available in *Yogarātnākara*<sup>29</sup> and *Rasarātnasamuccaya*<sup>30</sup> the root of *dhustura* (*Datura metel* Linn.) should be collected on the 14th day of black fortnight and inserted into *yoni* (?) which will prevent conception. The word *yoni* according to some authors, entitled to an opinion, stands for uterus in the present context. The term *yoni* in various contexts in ancient medical literature is also described to mean uterus. Thus, in the days of *Yogarātnākara* and *Rasarātnasamuccaya*, physicians were acquainted with intra-uterine devices for contraception.

A paste prepared of the seed of *palāśa* (*Butea monosperma* Kuntze), honey and ghee should be kept inside the vagina in sufficient quantity. This is described in *Bṛhadyogātaraṅgiṇī*<sup>31</sup> to prevent conception. In this work there is no mention of the time when this medicine is to be applied into the female genital tract and for how long. Another reading of the concerned verse is available in *Bhāratabhaiṣajyārātnākara*<sup>32</sup> and according to which the recipe is

required to be made to a very fine paste probably with a view to prevent any irritation to the female genital tract. In *Haramekhalā*<sup>33</sup> this medicine is said to be applied in the vagina during the time of menstruation (fertilization?). According to the commentators on *Haramekhalā* this medicine should be applied during the entire period of fertilization and not only once with a view to prevent conception.

(v) *Oral contraceptives for males*

In ancient classics on sexology and medicine, oral drugs for producing sterility in males are very rarely mentioned. One such reference is in *Ratirahasya*<sup>34</sup> according to which if an individual takes the power of *saḍbindu* (?) and *rajanī* (*Curucuma longa* Rosc.) impregnated with goat's urine, he becomes sterile. This recipe is said to produce its effect instantaneously even on young people. In *Rasaprakāśasudhākara*,<sup>35</sup> one complete chapter is devoted to the description of various formulae for *bijabandha* (lit. prevention of the ejaculation of semen) during coitus. Some scholars, however, interpret this term *bijabandha* to mean as delay in ejaculation or the power of retention of semen for a long time and not complete prevention of its ejaculation.

(vi) *Oral contraceptives for females*

The following formulae are described to produce sterility in females:

1. Old sugar candy

In *Tantrasārasaṁgraha*,<sup>36</sup> old sugar candy with milk is described to be used orally to prevent conception. In *Bhāvaprakāśa*,<sup>37</sup> *Bālatantra*,<sup>38</sup> *Kucimāratāntra*,<sup>39</sup> *Yogarātnākara*<sup>40</sup> and *Brhannighaṇṭurātnākara*<sup>41</sup> old sugar candy is said to be taken in, but there is no mention of the vehicle with which it is to be taken. In *Anaṅgaraṅga*<sup>42</sup> and *Pañcasāyaka*,<sup>43</sup> details of this type of recipe are given.

In *Bālatantra*<sup>44</sup> there is another reference to sugar candy (old?) being taken with rice-wash in the form of a linctus to produce sterility in the woman without affecting her sexual passion.

2. Root of *citraka* (*Plumbago zeylanica* Linn.)

In *Kucimāratāntra*<sup>45</sup> and *Anaṅgaraṅga*,<sup>46</sup> root of *citraka* (*Plumbago zeylanica* Linn.) is described to be boiled with rice-wash and, after filtration, the decoction is to be taken consecutively for three days after cessation of menstrual flow. This is stated to make the woman barren. In *Pañcasāyaka*<sup>47</sup> this decoction is said to make the woman barren for ever.

3. Fruit of *kadamba* (*Anthocephalus indicus* A. Rich)

The fruit of *kadamba* (*Anthocephalus indicus* A. Rich) added with one-fourth of honey in quantity, if taken for three days along with hot water,



produces sterility in the woman. This is described in *Anaṅgarāṅga*.<sup>48</sup> There are two different readings of the concerned verses. According to one, honey need not be taken and only one-fourth of the fruit should be used. According to the other, the recipe need not be taken with hot water but should be taken after the onset of menstruation. According to *Pañcasāyaka*,<sup>49</sup> however, the fruit of *kadamba* is to be taken with honey and rice-wash for three days after the cessation of the menstrual flow. There is another reading of the concerned verse in *Pañcasāyaka* according to which intake of this recipe even for one day after the cessation of menstrual flow will make the woman sterile. It has emphasized upon the utility of this recipe.

#### 4. Seed of *sarṣapa* (*Brassica compestris* Linn.)

In *Anaṅgarāṅga*,<sup>50</sup> *sarṣapa* (*Brassica compestris* Linn.), when taken for seven days during the period of fertilization along with rice-wash as vehicle, is described to cause sterility in the woman. In *Pañcasāyaka*,<sup>51</sup> a very small quantity of *sarṣapa* is stated to be taken and the rice-wash is stated to be prepared of white variety of rice only.

In *Kucimāratāntra*,<sup>52</sup> rice grains and sugar are mentioned to be added to *sarṣapa*—all these three in equal quantity should be mixed with rice-wash and taken by the woman to stop menstruation.

In *Bṛhadyogatarāṅgiṇī*,<sup>53</sup> *sarṣapa* is mentioned to be taken after triturating with gingili oil for three days during menstrual period. This will prevent conception.

#### 5. Seed of *palāśa* (*Butea monosperma* Kuntze)

In *Yogacintāmaṇi*,<sup>54</sup> a recipe for producing sterility in prostitutes is given as below: Seeds of *palāśa* (*Butea monosperma* Kuntze) are to be made to a powder and taken with water for three days during the time of fertilization (menstruation?).

In *Pañcasāyaka*,<sup>55</sup> fruit of *kṣīrīvrkṣa* (*Mimusops hexandra* Roxb.) and the flower of *śālmālī* (*Salmalia malbarica* Schott and Endl.) are described to be added to seeds of *palāśa* and then taken with alcohol for 15 days for producing sterility in the woman. Another reading of this verse is also available according to which ghee is to be used in the place of alcohol and there is no mention of time-limit for the intake of this recipe.

In *Garuḍapurāṇa*,<sup>56</sup> seed of this tree is stated to be made to a paste by adding honey and then taken by the woman during her menstrual period. This will prevent both menstruation and conception in future. In *Yogarātna-samuccaya*<sup>57</sup> there is no mention of the prevention of conception by the intake of this recipe. Only the stoppage of menstruation is described there as its effect.

6. Flower of *japā* (*Hibiscus rosa-sinensis* Linn.)

Flower of *japā* (*Hibiscus rosa-sinensis* Linn.) is described in *Bhāvaprakāśa*,<sup>68</sup> *Brhannighaṇṭuratnākara*<sup>69</sup> and *Yogarātnākara*<sup>60</sup> to produce sterility in the woman. In *Bālatantra*,<sup>61</sup> the synonym *vāṇīpuṣpa* is used in place of *japākusuma* occurring in this recipe.

In *Brhadyogatarāṅgiṇī*,<sup>62</sup> there is an interesting observation in this connection. The recipe, if taken during the time of delivery of a child, is stated to prevent future conception and, if at all there is conception, the foetus will not grow; by implication, there will be an abortion.

7. Root of *taṇḍulīyaka* (*Amaranthus spinosus* Linn.)

Administration of the root of *taṇḍulīyaka* (*Amaranthus spinosus* Linn.), made to a paste by adding rice-wash, to a woman after her menstruation (period of fertility ?) for three days will make her sterile. This is described in *Yogarātnākara*,<sup>63</sup> *Brhadyogatarāṅgiṇī*<sup>64</sup> and *Brhannighaṇṭuratnākara*.<sup>65</sup>

8. *Sehūṇḍaka* (*Euphorbia neriifolia* Linn.)

*Sehūṇḍaka* (*Euphorbia neriifolia* Linn.) is described in *Kucimāratāntra*<sup>66</sup> to produce sterility in the woman for ever. The stem of this plant is specifically mentioned to be used.

9. *Haridrā* (*Curcuma longa* Linn.)

One piece of the node of the rhizome of *haridrā* (*Curcuma longa* Linn.) should be taken every day, for six days (three days during menses and three days thereafter). This is described in *Kucimāratāntra*<sup>67</sup> to produce sterility in the woman but she will continue to have menses.

10. *Trapuṣa* (*Cucumis sativus* Linn.)

After the onset of mense if a woman takes seeds of *trapuṣa* (*Cucumis sativus* Linn.) for seven or eight days she will not deliver any more.<sup>68</sup>

11. *Śelu* (*Cordia dichotoma* Forst. f.)

Intake of a paste prepared of the leaves *śelu* (*Cordia dichotoma* Forst. f.) is described in *Bhaiṣajyaratnāvalī*<sup>69</sup> to stop menstruation.

12. Leaf of *pāṭhā* (*Cissampelos pareira* Linn.)

After taking the purificatory bath after menstruation, if the woman takes the leaves of *pāṭhā* (*Cissampelos pareira* Linn.) she will not conceive.<sup>70</sup>

13. Flower of *śālmālī* (*Salmalia malabarica* Schott and Windl.)

In *Tantrasūrasaṅgraha*,<sup>71</sup> intake of the flower of *śālmālī* (*Salmalia malabarica* Schott and Windl.) is said to cause sterility.

14. Fruit of *bakula* (*Mimusops elengi* Linn.)

Fruit of *bakula* (*Mimusops elengi* Linn.) made to a paste by grinding with alcohol, if taken during the period of menstruation, stops menstruation in future.<sup>72</sup>

15. *Marica* (*Piper nigrum* Linn.)

In *Yogaratanasamuccaya*,<sup>73</sup> the paste of white variety of *marica* (*Piper nigrum* Linn.) made with sugar water, if taken for three days during menstruation, is described to stop future menstruation.

16. Leaves of *campaka* (*Michelia campaka* Linn.)

Leaves of *campaka* (*Michelia campaka* Linn.) are to be soaked in water overnight and made to a paste. If administered to the female during the period of her menstruation, this will prevent conception. The period in years for which this contraceptive remains effective coincides with the number of leaves taken as per the method described above.

17. Leaf of *tāla* (*Borassus flabellifer* Linn.)

Powdered *tāla* leaf (*Borassus flabellifer* Linn.) mixed with red ochre, if taken with cold water on the fourth day of menstrual period, is described to cause sterility.

18. *Guñjā* (*Abrus precatorius* Linn.)

A very common and even now popularly used recipe for contraception is the white variety of *guñjā* (*Abrus precatorius* Linn.). Different methods of administration of this drug are prevalent in different parts of the country. Some people use the entire seed and some others use only the cotyledons removing the epicarp after soaking it in water for one night. Administration of one *guñjā* (white variety) on the fourth day of menstruation, two on the fifth day and three on the sixth day is stated to prevent conception for three years.

19. Castor seeds (*Ricinus communis* Linn.)

Administration of the pulp of one or two castor seeds during the menstrual period is stated to prevent fertilization for one and two years respectively.

20. *Agnimantha* (*Clerodendrum phlomidis* Linn. f.)

Administration of a decoction prepared with the root bark of *agnimantha* (*Clerodendrum phlomidis* Linn. f.) together with rice-wash is mentioned to cause sterility.

21. Flowers of jambu (*Syzygium cumini* Skeels)

Flowers of jambu (*Syzygium cumini* Skeels) ground with the urine of the cow are stated to cause sterility in the woman when taken during the time of menstruation.

22. Elephant-dung

In *Kucimāratāntra*,<sup>74</sup> water extracted from elephant-dung is prescribed to be taken with honey for seven days for effecting sterility in the woman.

23. Rabbit's blood

Intake of rabbit's blood during menses, or the period of fertilization, according to *Tantrasārasaṅgraha*<sup>75</sup> produces sterility in the woman.

24. Old ghee

Intake of three-year-old ghee for 15 days makes the woman sterile. Commonly cow ghee is used for this purpose.

25. *Tālisa* (*Abies webbiana* Lindl.)

Leaf of *tālisa* (*Abies webbiana* Lindl.) mixed with equal quantity of *gairika* (ochre) is described in *Yogarātnākara*<sup>76</sup> and *Bṛhadyogatarāṅgiṇī*<sup>77</sup> to produce sterility in the woman.

26. *Badarī* (*Zizyphus jujuba* Lam.)

After mense, if a woman takes *badarī* (*Zizyphus jujuba* Lam.) and lac (some scholars interpret it as the lac growing in the *badarī* tree) boiled in gingili oil, she would not conceive.<sup>78</sup>

27. *Pippalyādicūrṇa*

*Pippalī* (*Piper longum* Linn.), *viḍaṅga* (*Embelia ribes* Burm.) and *tanḱaṇa* (borax) made to a powder in equal quantity and if taken with milk during the period of fertilization (menstruation?), there will be no conception. This recipe is described in *Bhāvaprakāśa*,<sup>79</sup> *Yogarātnākara*<sup>80</sup> and *Bṛhannighaṇṭu-rātnākara*.<sup>81</sup>

28. *Dhātryādicūrṇa*

In *Bhaiṣajyaratnāvalī*,<sup>82</sup> the powder of *dhātrī* (*Embelia officinalis* Gaertn.), *arjuna* (*Terminalia arjuna* W. and A.) and *abhayā* (*Terminalia chebula* Retz.) is described to stop menstruation if taken with water.

29. *Rasāñjanādicūrṇa*

A powder prepared of *rasāñjana* (aqueous extract of *Berberis aristata* DC.), *haimavatī* (*Acorus calamus* Linn.) and *vayasthā* (*Terminalia chebula* Retz.), if taken with cold water, is described to stop menstruation; obviously there will be no conception.<sup>83</sup>

30. *Kṛṣṇajīrakāvaṭi*

In *Kucimāratantra*,<sup>84</sup> a recipe is mentioned to produce sterility and stop menstruation in the woman, which is made of the following taken in equal quantity: *Kālājīrī* (*Carum carvi* Linn.), *kacūra* (*Curucuma zedoaria* Rose.), *nāgakeśara* (*Mesua ferrea* Linn.), *haritakī* (*Terminalia chebula* Retz.), *kalauñjī* (*Nigella sativa* Linn.) and *katphala* (*Myrica nagi* Thunb.).

31. *Chandanādicūrṇa*

Powders of sandalwood, mustard and sugar are to be taken in equal quantity. It should be mixed with rice-wash and administered to make the woman sterile.

32. *Kūṭajādicūrṇa*

The woman who drinks in wine the fruits of *kūṭaja* (*Holarrhena antidysenterica* Wall.), *kadamba* (*Anthocephalus indicus* A. Rich.), *bālaka* (*Valeriana wallichii* DC.) and *candana* (*Santalum album* Linn.) becomes sterile.

Some of the above-mentioned recipes are single drugs and some are compound preparations. Most of these preparations are of vegetable origin, two of them are of animal origin also. In some compound preparations minerals are also added. Some of these recipes are mentioned in classics on medicine and sexology and some others do not find a mention therein but are extensively used by people out of experience accumulated since centuries. Choice of recipes for different types of individuals depends upon their age and physical constitution. Such information in connection with the administration of oral contraceptives is not available in classics.

These drugs are to be taken with a vehicle and followed by an *anupāna* (after drinks). In some cases the vehicle as well as *anupāna* are not mentioned. In some recipes the exact parts like root, fruit, flower, leaf, rhizome, etc., of the plant to be used for contraception are mentioned; in some others there is no mention of the exact part to be used. In some recipes the exact dose in which it is to be taken is described; but the same is lacking in some others.

The time of administration of contraceptives is intimately connected with the time of fertilization of the woman and the period of fertilization is regulated by the onset of menstruation. The recipes described above are to be given on certain days having relations to the menstrual period of the woman. Some of them are to be given during menstruation; some are to be given after menstruation; some are to be given during menstruation and to be continued even after that for a limited period and, for some others, specific time of administration with reference to the different stages of ovulation has not been described.

Some recipes described above are said to stop the menstruation only. Some others are said to stop both menstruation and conception and the other recipes are described to prevent conception only. In some recipes there is no mention about the duration of the contraceptive effect but in some others exact time in years is given. Some of these recipes are stated to make the woman barren for ever. Some of the vegetable drugs described in the above-mentioned recipes are difficult to be identified.

There is no mention of any adverse effect produced by the administration of these recipes. In some of them it is rather mentioned that the passion for sexual intercourse of the woman remains intact even after the administration of these drugs. Only qualified physicians with honesty and integrity are mentioned to be permitted to administer these drugs. Antisocial elements are forbidden to use them. Formulae of these drugs should never be disclosed to them.<sup>85</sup>

#### CONCLUSION

Some of these prescriptions mentioned in the early works are successfully used in the villages of India even today. So far, these single drugs and compound preparations are not scientifically studied. Some of these drugs might be anti-ovulatory agents, some anti-zygotic agents, some anti-implantation agents, some spermatolytic agents and some others anti-spermatogenic agents. Scientific researches in controlled conditions into various aspects of these therapies are suggested.

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