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# BANDHYATVA AND INFERTILITY: CONCEPTUAL AND COMPARATIVE STUDY

Ayruveda

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## ABSTRACT

Infertility is defined as, failure to conceive within one or more years of regular unprotected coitus. Male and female both are responsible for this disease. In Ayurveda four factors responsible for conception are Ritu (fertile period), Kshetra (healthy uterus & reproductive organs), Ambu (nutritional fluid), Beeja (quality spermatozoa and quality ovum) along with Marga (reproductive organs), Vayu (motility) and Hridya (psychological presence and acceptance). Any abnormal or pathological conditions of any of them can cause Bandhyayatva. WHO, called this as disability due to i.e. congenital, infection, endocrine, immunological and in general ovulatory, tubal, uterine and cervical causes and some are unexplained. The paper is an attempt to discuss the infertility in broad sense of Bandhyatva.

## KEYWORDS

Ayurveda, Bandhyatva, Infertility

### INTRODUCTION:

Woman is the cause of progeny and motherhood is a great dream for a woman's life. The term, Bandhya given to women, unable to conceive or produce progeny, In Ayurveda, it is described under term Bandhyatva1. Infertility is closest term used for, and it implies apparent failure of a couple to conceive. It is not a disease, but regretfully misbelieved social stigma in Indian society. Infertility is a disability (an impairment of function), ranked the 5th highest serious global disability2. Infertility affects up to 15% of couple who are in reproductive aged. In WHO report 1991, global prevalence of infertility was in 8-10%. The global condition in developing countries is quite different from developed countries3-4. One in every four couples in developing countries had found affected by infertility5. In report 2012, in less developing countries the ranges varies between 6.9.to 9.3 percent6. Overall prevalence of primary infertility in India is between 3.9 to 16.8%. It is estimated that 13-19 million couples are infertile in India at a specified time point. The socio-economic conditions are also playing a major factor7. As ICMR survey, the prevalence of primary infertility in urban areas is 4% and is 3.7% in rural areas8.

### AIM AND OBJECTIVES:

The aim of the study is to understand the Bandhyatva with Ayurveda and modern perspective.

### MATERIALS AND METHODS:

The study was carried out by detailed literary survey of Ayurvedic texts as well as modern scientific books and published journals. The presentation of the study has been done in a conceptual and scientific ways.

### BANDHYATVA:

In Vedic texts, terms i.e. Garbha dosha, Kakvandhya, Vandhya, Mritvatsa and Durbhag, have been used9. Ayurvedic texts have not described any classification of this condition. Charak has described it under Bijansa dusti and Sushrut has described under twenty types of Yonija roga10. Harit Samhita has described six types11 and Rasaratna Samucchay12 and Madhav Nidana13 have described nine types of Bandhyatva.

**Table.1: Types of Bandhyatva in Ayurvedic texts**

| ***Harita Samhita***[10] | ***Rasaratna Samucchay and Madhav***[12-13] | |
|---|---|---|
| 1.*Garbhakosabhanga*- injury to the uterus | 1. *Adivandhya*- congenital infertility | |
| 2. *Kakavandhya*- infertile after one baby | 2. *Vataja*- | caused by |
| 3. *Anapatya*- no child | 3. *Pittaja* Doshik involvement | |
| 4. *Garbhasravi*- repeated abortion | 4. *Kaphaja* | |
| 5. *Mritvatsa*- repeated still birth | 5. *Sannipataja* | (internal cause) |
| 6. *Balakshya*- infertile due to loss of Bala | 6. *Rakatja* | |
| | 7. *Daivaja*- due to wrath of deities | |
| | 8. *Bhutaja*- due to infections | |
| | 9. *Abhicharaja*- due to wrong diet & lifestyles | |

### Essentials for conception:

The essential factors for conception are Ritu (fertile period), Kshetra (healthy uterus & reproductive organs), Ambu (nutritional fluid), Beeja (quality spermatozoa and quality ovum) along with Marga (reproductive shrota), Vayu (motility) and Hridya (psychological presence and acceptance). Any abnormal or pathological conditions of any of them can cause Bandhyayatva[1].

### Etiology of *Bandhyayatva:*

According to Charak, if any of the Matrija bhava get, vitiated then birth will not occur. There are many factors resistant for pregnancy i.e. very young and old women, sufferer of chronic illness, hungry and sorrow or other physiological abnormalities and postural defect during coitus 14. Bhavprakash first time described Smirana nadi (outer part of vagina), one of the three nadi where sperm loses own activity or unable to approach above15. Bhela has given causal relationship of Beejdosh, Yonidosh, non-intake of wholesome diet and Vegadharan with Bandhyatva, these all aggravate Vata, which causes expulsion of sperm and stop the menstrual cycle. Kashyap has included in eighty types of Vata roga and vatiation of Vata causes Beejopghat (unmaturation of sperms and anovulation of ovum) and Pushpoghat (stop to menstruate)[16].

There are also other factors of Bandhyatva, found scattered in Ayurvedic texts.

1. Astartava dusti- if remains untreated or not properly treated then it causes unable to Prajotpadana.

2. Jatharini- Kashyap has mentioned Revati Jatharini as Puspaghni and affected women menstruate with regular interval, but unable to conceive. In Putraghni Jatharini, repeated Garbhashrava (abortion) has occurred.

3. Artavavaha shroto viddha- Sushrut has mentioned, trauma on the Artava vaha shrotas causes Pushpanasa.

4. Beejadusti- Charak has mentioned, Dusti of Beeja, Beejabhaga, or Beejabhagavayava causes Bandhya and Shandi Yonivyapada.

5. Yonivyapada- Madhav has mentioned, Acharana, women is not having Beeja, whereas Sushrut has named it Aticharana. In Vamini, Sukra, expulsion within 6-7 days. Vandhya has absence of Artava.

Chakrapani mentioned Asrija yonivyapada as Apraja due to excessive Raktasrava (bleeding)[16].

**Samprapti (pathogenesis):**
Whole etiology can be summarized in Beejadosha (related to ovum), Yonidosha (related to pathology of reproductive organs), Aharadosha (related to proper nutrition) and Mansikadosha (related to normal psychological conditions).

**Samprapti ghatak-**
Dosha- Vata predominance
Dhatu- Rasa, Rakta
Updhatu- Artava
Shrotas- Artavavaha
Adhisthan- Yoni & Garbhasaya

Vitiated Vata get aggravated in Yoni & Garbhasaya and causes Khavaigunya, which in turn produces Ama and viatiate the Artavavaha Shrotas. So, in the avaruddha Artavavaha Shrotas, Vata becomes more aggravated and destruct the process of Aartava (menstruation) and production of Beeja (ovulation of ovum)17.

**INFERTILITY:**
Infertility, defined as the inability of a couple to achieve conception after one year of unprotected coitus18. It may be, also defined as the inability to get pregnant after a reasonable time of intercourse with no contraceptive measures taken. Usually infertility and sterility both used interchangeably. Infertility implies apparent failure to conceive while sterility indicates absolute inability to conceive, for one or more reasons[19].

**Types:**
a. Primary infertility- conception has not occurred.
b. Secondary infertility - conception failed to occur after a period of fertility.

**Causes of Infertility:**
Fertility also varies in individuals and physiological infertility is seen in various conditions, like before puberty, during pregnancy, lactation, menopause etc.

A. Ovarian factors:
1. Ovulatory dysfunctions:

It linked with disturbed hypothalamo–pituitary–ovarian axis, primary hypothyroidism or adrenal dysfunction, polycystic ovaries and DM. These disturbances may result not only in anovulation but may also produce oligomenorrhea or even amenorrhea.

**2. Luteal phase defect (LPD):**
Anovulation is also a feature of luteal phase deficiency and lutenized enraptured follicle. Decreased level of FSH or LH, elevated prolactine, subclinical hypothyroidism, older women, pelvic endometriosis and DUB are the important causes.

**Ovarian dysfunction can classified in three groups-**
- Group I- Women in this group typically present with amenorrhea and low gonadotropin levels
- Group II- Women in this group include those with polycystic ovary syndrome and hyperprolactinemia.
- Group III- Women in this group can conceive only with oocyte donation and in vitro fertilization.

**B. Tubal Factors:**
Partial or complete bilateral tubal obstruction results from previous salpingitis.

**C. Peritoneal factors:**
Pelvic adhesion i.e. peritubal adhesions are creating a mechanical obstruction between ovary and tubal ostium.

**D. Uterine Factors:**
Hypoplasia, inadequate secretion of endometrium, fibroid-uterus, endometriosis, polyps, congenital malformation of uterus.

**E. Cervical Factors:**
Congenital elongation of the cervix, second degree uterine prolapsed or retroversion of uterus, excessive viscous mucus or purulent discharge in chronic cervicitis, prevent penetration of sperm.

**F. Vaginal Factors:**
Vaginitis and purulent discharge, atresia in vaginal muscles may be the real causes.

**G. Combined Factors:**
a. Advanced age of wife >35 years
b. Infrequent intercourse
c. Apareunia and dyspareunia
d. Use of lubricants during intercourse, which may be spermicidal.
e. Immunological factors- antisperm or sperm immobilizing antibodies 19-21.

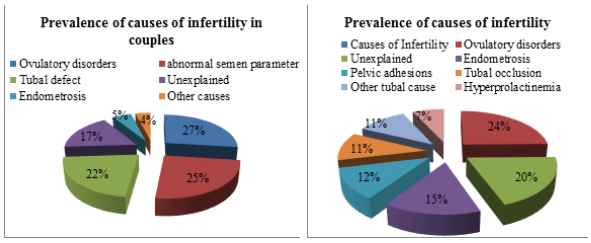


**Fig.1. Causes of infertility**

**DISCUSSION:**
Infertility, in which couple is unable to achieve the clinical pregnancy beyond 12 or more month of regular unprotected intercourse. Any abnormal or pathological conditions of Ritu, Kshetra, Ambu, Beeja, Marga and Vayu, causes Bandhyayatva. Ayurveda has elaborately described reproductive system health, Rajovaha-srotas, Artavaha-srotas and Stanyavaha-srotas make quality of Stree-beej and Sukra. Any structural and physiological changes of uterine, cervical, vaginal and tubal factors represent Yonivyapad, it inhibit or restrict the fertility of woman. Aartavadusti indicates the anovulatory stage and menstrual dysfunction. Beejdusti depicts defect of oocyte maturation and ovarian factor. Proper diet and psychological conditions are the important factors for the nourishment of reproductive organs and functions of reproductive organs. Modern science, find these causes through several diagnostic tests and examinations and correct the dysfunction. Ayurveda has always attention to enhance the systemic health and indirectly stimulating the hypothalamus and pituitary glands for conceiving and pregnancy.

**CONCLUSION:**
In Ayurveda etiology, clinical features and treatment of Bandhyatva has been described in scattered manner throughout the texts. It described under the heading of Yonivyapad, Artavadusti, Beejadusti, Jatharini and Matrijbhavadusti, which are comparatively as gynecological disorders. A novel concept of conception has been described as Ritu, Kshetra, Beej and Ambu. The relevance of the concept has been established with scientific evidences and inappropriate functioning of one of these four factors may result in Bandhyavtva. Infertility is a more common problem in everyday gynecological practice. Conception is a resultant of successful fertilization of mature ovum with qualified sperm and attachment in uterine wall. Lack of quality in ovum or sperm or both and other factors causes unsuccessful fertilization results in infertility. Modern science has described infertility elaborately but the further new knowledge is continuously adding. We can conclude that Ayurveda has sound knowledge about the infertility and its causes. All the present and new knowledge are already present in coded form in our classical texts. Authors suggest that there is a need of further scientific and comparative study of pathogenesis of infertility with Ayurveda and modern science, to solve this social burden.

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