

A CRITICAL REVIEW ON ETIOLOGY OF VANDYATWA IN CURRENT ERA

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ABSTRACT

Vandyatwa has been long standing problem since the ancient period. Infertility is the inability of couple to achieve pregnancy over average period of one year (in a woman under 35 years of age) or 6 months (in a woman above 35 years of age) or 3 months (in a woman above 40 years of age) despite adequate, regular (3-4 times per week) unprotected sexual intercourse.^[1] According to *sushruta*, women in whom *artava* has destroyed is termed as *vandya*.^[2] Important factor for conception are considered as *rutu* [fertile period], *kshetra* [uterus & reproductive organ], *ambu* [proper nutrient fluid], *bija* [shukra & shonita] & normalcy of Hridaya or psychology. Proper functioning of *vayu* [normal nervous system] & *shadbhavas* [*matraja*, *pitraja*, *Atmaja*, *satvaja* & *rasaja*] abnormality in any one of them can cause *vandyatwa*. infertility. As per ayurveda *Nidana parivarjana* is the 1st line of treatment thus before treating any disorder we should have

knowledge about causative factor & pathology of that condition. Vata is the prime causative factor of *vandyatwa*. In this given paper, there is elaboration of scientific approach towards *vandyatwa* on the basis of various different ancient text.

KEYWORDS: *Vandyatwa*, Female Infertility.

INTRODUCTION

The god has blessed the female with the most valuable gift of motherhood. Mother is also called as Janani who give birth to child. Motherhood is the cherished desire deep down in the heart of every woman which add new meaning to her life and existence.

Infertility is the universal phenomenon occurring the both developing & under developing countries. The WHO estimated the overall prevalence of primary infertility in India to be in between 3.9 and 16.8 percent.^[3] About 40% due to female factor, 30% due to male factor, 20% combination of both, and in about 10% the cause is unknown.^[4] Beside genetic factors changing life style, disease malformation of the uterus, alcohol consumption, increased stress & age, socio-economic, environmental & immunological identified as factor contributing to the rising rate of infertility. Moreover, in this era, women are becoming more career- focused, which frequently causes delay in marriages. Increased maternal age may also increases the chance of infertility it is a social stigma in society.^[5] The female partner is blamed. She is the victim of social gossip for her bareness. This turn led to unhappiness, psychosomatic ill health as a result in marital disharmony.

AYURVEDIC VIEW

The word *vandya* derieved from root 'vandh' with 'yak' suffix which means barren, unproductive, fruitless & useless so the women in whom there is hindrance of any kind of normal process of conception is called *vandya*.

Vandyatwa is described since *Samhita kala* in *Brihattreya* as well as *Laghuttreya*. *Acharya Charaka* and *Acharya Vagbhata* have referred *Vandyatwa* due to abnormality of *Bijamsa*^[6,7] and mentioned as the *Upadrava* of *Yoni vyapada*.^[8] According to *Acharya Charaka*, Abnormality in any one out of *Shadbhawas* (*Matraj, Pitraj, Atma, Satwa, Satmya, Rasa*) will cause the failure to conceive.^[9] In *Sushruta Samhita*, *Vandyatwa* has been described under *Vandyatwa Yonivyapada*, which is included amongst twenty *Yonivyapadas*.^[10] *Acharya Bhela* says that due to the abnormalities of *Bija* of mother and father, non-consumption of congenital *Rasas* and disorders of *Yoni*, the women become *Vandyatwa*.^[11] *Bhavprakasha* has mentioned *Vandyatwa* in *Yonirogadikara* and mentioned *Artavanasha* as one among the 80 *Vatajananatmaja Vikara*.^[12] In *Harita Samhita*, *Acharya Harita* has described *Vandyatwa* as a disease, in eighty *Vataja vyadhi*. He has defined *Vandyatwa* as a failure to achieve a child rather than pregnancy, because he has included *Garbhasravi, Mritavatsa* also under the classification. The definition of *Vandyatwa* is not mentioned but the types and prognosis of

the *Vandyatwa* individuals has been described.^[13] In *Kashyapa Samhita* under chapter of *Jatiharani* one is “*Pushpaghni*”, which can be related with anovulatory cause of infertility and other various types of disease mentioned which leads to childlessness.^[14] In *Ayurveda*, Anovulation refers to *Abeejotsarga*. The Term *Utsarga* means to expel or to leave. So, Expulsion of matured ovum from the *Beejagranthi* means *Beejotsarga*. As *Utsarga* is a *Karma* of *Vata* so Vitiation of *Apana Vata* dosha causes *Abeejotsarga*. *Abeejotsarga* is symptom as well as a disease caused due to vitiation of *Vata* and *kapha doshas* as they do *Marga–Avarodha* to *Artavaha Strotas* leading to *Abeejotsarga*.^[15] According to *Acharya Kashyapa*, the women having amenorrhoea, Scanty menstruation, non-ovulation or useless ovulation (ovum with minimal or absence of capacity of fertilization) should be treated with *Anuvasana Basti*.^[16]

Classification

The classification of *Vandyatwa* has not been given separately in any classics except *Harita Samhita*, *Rasa Ratna Samucchaya* and *Vandyatwa Kalpdrum*. *Acharya Charaka* has mentioned *Sapraja*, *Apraja* and *Vandyatwa* i in three different contexts. *Sapraja* means infertility occurs after conceiving one or more children, *Apraja* resembles curable infertility and *Bandhya* resembles incurable sterility^[17] (Table 1).

<i>Harita Samhita</i> (<i>Ha.Tritiya Sthana</i> 48)	<i>Rasa Ratna Samucchaya</i> (<i>A.32/1-3</i>)	<i>Bandhya Kalpdrum (Stri Chikitsa Sammucchaya)</i>
<i>Kakavandhya</i>	<i>Adivandhya</i>	<i>Tripakshi</i>
<i>Anapatya</i>	<i>Vataja</i>	<i>Subhrati</i>
<i>Garbhasrav</i>	<i>Pittaja</i>	<i>Sajja</i>
<i>Mritvatsa</i>	<i>Kaphaja</i>	<i>Trimukhi</i>
<i>Balakshaya</i>	<i>Sannipataja</i>	<i>Vyaghrini</i>
<i>Garbhakosa bhanga</i>	<i>Bhutaja</i>	<i>Baki</i>
	<i>Daivaja</i>	<i>Kamili</i>
	<i>Raktaja</i>	<i>Vyaktini</i>
	<i>Abhicharaja</i>	

ETIOLOGY OF VANDYATWA

Yoni never gets spoil without *Vata*, *Vandhyatwa* has also been described in eighty types of *Vatikaroga*. So, *Vata* is the prime causative factor of *Vandhyatwa*.

Acharya Charaka has clearly described the *Nidanans* of *Vandhyatwa*^[18] which are almost similar to causes of infertility according to modern science.

MITHYACHARA; It includes *Mitya Ahara* (abnormal diet) and *Mithya Achara* (abnormal mode of life). Various environmental factors operating either during embryonic life of the girl (congenital abnormalities) or later life also comes under this heading.

MITHYA AHARA; Intake of *Asatmya* (incompatible), *Vishama Ahara* (unwholesome, unhygiene & incompatible food), *Atyadhika* (excessive) amount of food intake leading to *Meda Vrudhi*. *Medo dhatwagni dusti* leading to the *sthoulya*, *prameha* other disorder.

As the life style modification most of the women suffering from the central obesity leading to insulin resistance & hyperinsulinemia has a stimulatory effect on ovaries & adrenal glands that lead to enhanced androgen production by these organs. Excess insulin enhances the androgen production in ovarian theca cell in response to luteinizing hormone stimulation, resulting in follicular arrest & anovulation. no ovum releases no fertilization leading to infertility.

MITHYA VIHARA: Abnormal mode of life and *Vegavidharana*^[19] (suppression of natural urges aggravate) *Doshas*, which produce various gynecological abnormalities. Coitus with woman in *Nyubja* or *Parshvaavastha*^[20], discharge of semen on *Samirana Nadi*^[21] or outside the vagina comes under defective practice. In all these conditions probably, semen is not properly deposited inside the vaginal canal. Thus, sperm fail to enter uterus causing infertility.

MANSIKA ABHITAPA: Normal psychology of the couple is very important for achievement of pregnancy. Happiness of heart^[22], due to *Bhaya*, Distraught mind (*Vimana*), *Shoka*, *Krodha* etc., *Vata* will be vitiated and it is also said that *Vishada* further aggravates existing pathogenesis.

Now a days most of the women working they are exposing to stressful stimuli causes activation of HPA axis & sympathetic adrenal medullary axis releases glucocorticoids in blood stream acting directly on hypothalamus altering the physiological release of GnRH, altering in the follicular growth, alteration in ovulation leading to infertility.

SHUKRA DOSHA: All eight types of *Shukra dusthi* are incapable of producing progeny. *Pitruja Bhawas* described under six factors are carried to the embryo through sperms. After 40 more chances of sperm DNA fragmentation.

Infections- epididymo- orchitis, mumps, T.B, filariasis.

Previous surgery – orchiopexy, hydrocele Rx e.t.c.

Alcohol & smoking effect sperm production, quality, transport, fertilization, embryo quality.

ARTAVA DOSHA: The word *Artava* refers to ovum, menstrual blood and ovarian hormones. *Nashtartava* is one of main cause of *Vandhyatwa*. *Artava* vitiated by different *Doshas* i.e. *Ashtartava dushti* produces infertility due to destruction of its *Beeja* of the ovum. Any abnormality in ovary & HPA axis causes infertility.

BEEJADUSHTI: Defect may be in ovum or sperm or may be genetic defect most of the consanguineous marriage gene mutation leading to abortion, IUD, prenatal & post-natal death.

YONI PRADOSHA: The word "*Yoni*" refers to entire female reproductive system, thus, under this heading congenital or acquired diseases of anatomic components of reproductive system i.e. vagina, cervix, uterus, endometrium and fallopian tubes can be included.

It can include; *Yonivyapad*: All twenty *Yonivyapad*, if not treated properly, the woman is unable to conceive. Injury to *Artavavaha Strotas*: *Acharya Sushruta* has included *Vandhyatwa* under the clinical features of injury to *Artavavaha Strotas*.

Yoniarsh -Yoniarsha in *yonis* cause infertility by destroying the *Artava*.

Garbhakoshabhanga^[23]: Word "*Bhanga*" considered as prolapse of uterus or its retro-displacement, due to that difficulty to movement of the sperm to reach the ovum which is the one of the causes of infertility.

Bhagasankocha^[24]: During coitus with a girl before her menarche, deep lacerations or tear of vulva and vagina may take place. Healed scars of these ulcers may produce constriction of vagina, thus, hamper proper penetration of penis during coitus resulting into incomplete coitus, a cause of infertility.

Sphalita Mutratwa: *Sphalita mutratwa* in girls is seen in strictures, partial obstruction or spasm of urethra, for which the most common cause is gonorrhoeal urethritis, because gonococci cause inflammation of reproductive system along with urinary system. Gonorrhoeal salpingitis is very common cause of infertility.

Utkshiya Yoni: Upward displacement of cervix in cases of retroversion of uterus is the one cause of infertility.

Aticharana yoni vyapad: Acharya Sushruta says that this disease is caused due to excessive coitus. The woman does not achieve conception. Charaka and Vagbhata describe it to be *Vataja*, while Sushruta due to *Kapha*. In initial stage due to intense sexual desire, woman may feel vaginal itching and due to repeated coitus may have excessive mucoid unctuous secretion from cervical and endometrial glands, which are clinical features of *Kapha* as explained by Sushruta.

Vamini yonivyapad: Acharya Charaka says that in this condition *shukra* is expelled with or without pain within 6 or 7 days of its entry into the uterus. This condition can be found in obstruction of cervix or fallopian tubes in which sperm comes outside without fertilization. While as per Acharya Sushruta *yonis* excretes *beeja* admixed with *raja* and *vata*^[25] which can be compared with defect in implantation. Both the conditions are causes of infertility.

Putraghni yonivyapad: The aggravated *Vata* due to predominance of *Ruksha guna* and *dushta shonita*, repeatedly destroy the foetus.

Shandhi yonivyapad: Due to abnormalities of *beeja* the *Ashaya* (uterus) of the female fetus is influenced or afflicted with *Vayu*. The born child, in later had absence or very slight development of breasts, dislikes coitus and absence of menstruation.

AKALA YOGA: The word “*Kala*” considered as period of age and *Rutukala* both. In adolescent girls and old ladies due to premenarche and menopausal stage respectively and before or after *Rutukala* due to absence and destruction of ovum respectively, conception does not take place.

BALA KSHAYA: *Bala* refers to physical strength and capacity to become pregnant. *Bala* depends upon *dhatu*s, so probably loss of *Bala* due to *Dhatukshaya* as a complication of diseases, premature aging and unknown cause refers to infertility.

ATMA DOSHA: It includes infertility due to influence of misdeed's done by the couple in their previous life as well as abnormality of *Atma* descending in this pregnancy. Misdeeds of previous life refer to idiopathic causes. *Atma* descending in fertilized egg is encircled by *Satva*, both these *Atma* and *Satva* are included under *Shadbhawas* of embryo, conception is

the result of union of *Shukra*, *Shonita* and *Atma*, naturally its abnormality may cause infertility.

JATAHARINIS: *Jataharinis* destroys *Bijaripaartava*, destroys *Vapu* (body), destroys the *Garbha* (fetuses), destroys the *Jata* (born children), destroys *Jayamana* (being born) or *Janishyamana* (to be born). *Acharya Kashyapa* has also mentioned *jataharinis* characterized with repeated expulsions of foetuses of different gestational periods i.e *Andaghni*, *Durdhara*, *Kalaratri*, *Nakini*, *Vashya* etc.

Daivaprakopa: This refers to idiopathic cause of infertility.

Abnormalities in essential factors

To understand the pathology of conception, it is very fundamental to go through the physiology of conception i.e. the factor essential for conception.

According to Acharya charaka^[26]

Matruja and Pitruja: *Shonita* (*Stribeeja*) and *Shukra* (*Pumbeeja*) should be normal.

Aatmaja and Satvaja: *Aatma* encircled with *satva* descends in the fertilized egg and forms *garbha*. Formation of *garbha* is not possible without *aatma* and *satva*.

Satmyaja and Rasaja: The normalcy of *shonita* and *shukra* greatly depend upon the use of *Satmya Aahara* and *Vihara*. The nourishment of mother and embryo depend upon the *Rasa*.

So, any abnormality of Garbhakarabhavas i. e shadbhawas will cause failure to conceive.

According to Acharya sushruta.1

According to *Acharya Sushruta* four main factors required for the proper conception are,

Rutu: *Acharya Dalhana* explained *Rutu* as *Rajaha Samayaha* i.e. ovulation period. When seeds are sown during *Rutu* (season), they are likely to bear fruit. So, *Rutu* is the most fertile period in which *Garbhashaya* or *Yonimukha* opens for entry of sperm and facilitate conception. According to *bhavprakash*, *Rutukala* is the appropriate period for *Beejotsarga* and *Garbhadhana*. It is of 12 days^[27] or 16 days^[28] or if *Yoni Garbhasaya* and *Artava* are healthy, it may be of whole month^[29], Sometimes *Rutukala* may come up without menstruation. *Acharya Dalhana* has explained that in twelve-day duration, the first three days and last one day constriction of yoni out of sixteen days duration are not counted. Since the seed (sperm) deposited during this period are likely to bear fruit (conception), hence it is termed as *Rutukala*. *Acharya Kashyapa* has been mentioned its duration as 12 days for

Brahmanis, 11 days for *Kshatriya*, 10 days for *Vaishya* and 9 days for *Kshudra*.^[30] *Acharya Bhawamishra* has been mentioned its duration as 12 days for *Brahmanis*, 10 days for *Kshatriya*, 8 days for *Vaishya* and 6 days for *Kshudra*.^[31] Any abnormality in the menstrual outflow leading to infertility.

Kshetra: *Acharya Dalhana* explained *Kshetra* as *Garbhasaya*. *Kshetra* is also taken as female reproductive system. Vagina should be healthy. Cervix and cervical mucus must be penetrable to pass spermatozoa. The fallopian duct must be patent and sufficient ciliary movement should be present. The uterus must be capable to support implantation and foetal growth throughout pregnancy.

Any abnormality in the reproductive system like Congenital uterus malformation, biseptate uterus, endometriosis, tubal dysfunction result from pelvic inflammatory disease, appendicitis, endometriosis, pelvic adhesions, tubal surgery, previous use of intra uterine device, previous ectopic pregnancy Imbalance in the vaginal pH hinder their motility of sperm towards the egg All these factors leading to infertility.

Ambu: *Acharya Dalhana* explained *Ambu* as *Aharapakotpanna rasa dhatu*. Proper nourishment of genital organs by *Rasa* and hormone levels must be adequate. According to *Acharya Vagbhata*^[32] as lotus flower closes after sunset, similarly after *rutukala* the yoni of woman gets constricted and does not accept *shukra*. The sun can be correlated with the ovary and the sun rays with the ovarian hormones and lotus flower with cervix So, at the end of *Rutukala*, level of ovarian hormone-estrogen decreases and cervical part of uterus get constricted and does not accept *shukra* or permit the entry of *beeja* (Sperm).

Beeja: *Acharya Dalhana* explained *Beeja* as *Artava & Shukra*. Ovum must be normal and there should be presence of ovulation. The male must produce an adequate number of motile and morphologically normal spermatozoa. Scientific explanation of physiology of *beeja nirmana* is given by *Vishvamitra* in *Sushruta Sutra* 14/14, *Chakrapani* commentary. He explained that *rakta* (the form achieved by the *rasa* after entering into the concerned *strotas*) enters into the minute channels (*Sukshmakesha pratikashah bijaraktavaha sirah*) attaining the particular nuclear form which has the capacity to form *beeja*. In the same context *Acharya Sushruta* described that *rasa* which attains *raktatva* through innumerable *dhamanis* gets *upachita* in the form of *artava*. *Acharya Kashyapa* mentioned that *garbha* forming entity is exposed to the *rajovaha shiras* where the *rajaha pravisarjana* occurs. Then it takes the form

of *pushpa* & its *pravartana* occurs every month.^[33] *Pravartana* is governed by *apana vayu* as mentioned by *Acharyas* in the *prakrita karma* of *apanavata*.^[34] Similarly, *parisarpa* mentioned at the time of coitus requires presence of *agni*, which can correlate to *pitta*.^[35] *Kapha* is *Prithvi* and *Jala Mahabhuta Pradhan* and these *Mahabhutas* play important role in *Nirmana Prakriya*. *Acharya Charak* has mentioned *Upachyaas* the *Karma* of *Kapha*^[36] and *Acharya Sushruta* states *Kapha Karma* as *purantarpanabalasthairyakrit*.^[37] All these virtues help in formation of *Beeja*. Moreover, *Kapha* and *Rasa* having *Ashrayashrayi Bhava*, it plays an important role in the formation of its *Updhatu artava*.

So abnormality in any one of these essential factors can cause *Vandhyatwa*

Acharya Vagbhata has emphasized that besides healthy *Garbhashaya*, *Marga*, *Rakta*, *Shukra*, properly functioning *Vayu* and normal psychological status are also essential.^[38]

DISCUSSION

Acharya has explained several essential factors that contribute to formation of *Garbha* (Embryo). These factors include *Rutu* (appropriate timing), *Kshetra* (healthy uterus & passage), *Ambu* (adequate nutrient for mother), *Bija* (healthy ovum & sperm), normalcy of *Hridaya* and psychology, proper functioning of *Vayu* & *shad bhava*'s any abnormality in these factors lead to infertility. Hence it is important to ensure the health of uterus, vagina, cervix, cervical mucous, tubes, ovum & sperm along with maintaining proper diet & psychological well-being of the mother, in order to achieve healthy progeny. Conception occurs when a mature ovum is successfully fertilized by qualified sperm & attaches to uterine wall. However, unsuccessful fertilization led to infertility, it rises due to poor quality of the ovum, and sperm or both along with other contributing factors. According to *Ayurveda*, among the *Tridosha*, *Vata* is primarily involved in this condition along with *Artavaha srotas*, *rasa dhatu*, *jatharagni* & *dhatwagni*. Additionally, *yonis*, *garbhashaya* & *yonis marga* are considered as *adhithana* of infertility.

Vata function can be considered as HPO axis, due to vitiation of *vata* abnormality in release of LH, FSH hormone, oestrogen & progesterone *vata dusti* leads to no follicular stimulation, no release of ovum from the ovaries leads to the infertility.

CONCLUSION

Infertility has increased tremendously in the past decade due to the result of combination of social, environmental, psychological, immunological increased stress, age & nutritional

factor. Today the modern medicine has the ability to find out causes of infertility through several diagnostic tests and examinations. Using these tests, treatment focuses on correcting and treating the dysfunction. In Ayurveda *nidana parivarjana* is the first line of treatment. Thus before treating any disorder we should have knowledge about causative factor and pathology of that condition. Along with that treating of the *yonivyapad* according to the classical text followed by *dinacharyaa, rutucharya, vyayama* etc to bring back the normal functioning of the vata (HPO axis).

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