



"Exploring the Scientific Approach to Understanding the Etiology of *Vandhytva*: A Critical Review"

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Abstract:-

The current lifestyle of women is often characterized by high levels of stress, unhealthy habits, and inadequate hygiene practices due to lack of awareness and busy schedules. This has led to an increase in *Vandhytva*, a significant health issue that affects both the social and psychological aspects of people's lives. *Vandhytva* is defined as the inability to conceive after one year of regular unprotected intercourse. The Indian Society of Assisted Reproduction reports that around 10 to 14 percent of the Indian population is currently affected by *Vandhytva*, with higher rates observed in urban areas where one out of every six couples faces this challenge. In India, nearly 27.5 million couples who are actively trying to conceive are affected by *Vandhytva*.

Ancient *Ayurvedic* wisdom, as described by *Sushruta*, identifies women in whom the natural menstrual cycle (*Artava*) has been disrupted as "*Vandhya*." According to *Ayurveda*, four key factors contribute to successful conception: *Ritu* (Ovulatory period), *Kshetra* (endometrial health), *Ambu* (Hormonal balance), and *Beej* (Ova and Sperm quality).

Ayurveda emphasizes the importance of *Nidan-parivarjana*, which involves avoiding causative factors, as the primary approach to treating any disorder. It is crucial to have a thorough understanding of the underlying causes and pathologies before addressing a condition. In the context of *Vandhytva*, *Vata* is identified as the primary causative factor for *Vandhyatva*.

This paper delves into a scientific exploration of the causes of *Vandhyatva*, drawing insights from various ancient texts and view points.

Keywords:- *vandhytva, artava dusti, ayurveda, Vandhytva*

Introduction:-

Women have been bestowed with the incredible gift of motherhood by a divine force. However, if the opportunity for motherhood is not realized, it can be profoundly disappointing. The modern lifestyle embraced by women today often entails high levels of stress, unhealthiness, and a lack of hygiene due to a combination of unawareness and demanding, fast-paced schedules. Consequently, *Vandhytva* has emerged as a significant concern that affects both the social fabric and the psychological well-being of many.

The term "*Vandhya*" finds its roots in the *Ayurvedic* tradition, stemming from the base "*Vandh*" with the "*Yak*" suffix, signifying barrenness, unproductiveness, fruitlessness, and ineffectiveness. Thus, a woman in whom any hindrance disrupts the natural process of conception is referred to as *Vandhya*. According to *Sushruta*, a woman who has lost the balance of "*Artava*" is categorized as *Vandhya*¹.

Classification:

Charakasamhita: various references are togetherly classified in three types

- 1) *Vandhya*: signifies the complete incapacity to conceive due to profound inherent issues such as *beejopaghata*² (comprehensive congenital chromosomal or mullerian agenesis irregularities).
- 2) *Apraja*: pertains to *Vandhyatva* wherein a woman achieves conception through therapeutic means (primary *Vandhyatva*), or a woman who experiences unsuccessful pregnancies despite achieving conception³.
- 3) *Sapraja*: alludes to a state where a woman in her productive reproductive phase does not achieve conception despite having a history of successful pregnancies⁴.

According to *Harita Samhita*⁵

Acharya Harita teachings encompass a comprehensive exploration of six distinct types of *Vandhyatva*, each distinguished by specific clinical traits:

1. ***Kakavandhya***: This type refers to the inability to conceive subsequent to the birth of one child.
2. ***Anapatya***: Primary sterility denotes the condition where a woman has never conceived.
3. ***Garbhasravi***: Marked by a series of unsuccessful pregnancies due to recurring abortions.
4. ***Mritavatsa***: Characterized by recurrent intrauterine fetal demise, stillbirths, and perinatal losses.
5. ***Balakshaya***: *Vandhyatva* resulting from a depletion of *Bala* (strength) or *dhatukshaya*.
6. ***Unexplained***: Conjunction with an adolescent girl prior to her menarche leads to uterine constriction and *Bhaga*, causing delayed conception or considerable difficulty in conceiving.

Etiology of *vandhyatva* -

The origins of *Vandhyatva* stem from a variety of factors, forming a complex interplay of causation. These factors are broadly categorized into two groups:

A. Abnormalities in Essential Factors:

A foundational comprehension of the conception process mandates an exploration of the physiological elements pivotal to conception.

As articulated by *Acharya Charaka*⁶:

- ***Matruja and Pitruja***: The well-being of *Stribeeja* (ovum) and *Pumbeeja* (sperm) is essential for successful conception.
- ***Aatmaja and Satvaja***: The fusion of *Aatma* (soul) enveloped by *Satva* (consciousness) gives rise to the formation of the embryo (*garbha*)⁷.
- ***Satmyaja and Rasaja***: The equilibrium of *Stribija* and *Pumbeeja* significantly hinges on the utilization of *Satmya Aahara* (compatible diet) and *Vihara* (lifestyle practices). Both maternal and fetal nourishment is dependent on the balance of *Rasa* (nutrient essence).

So, any abnormality of *Garbhakarabhava* i. e. *shadbhava* will cause failure to conceive.

According to *Acharya Sushruta*, there are four primary factors essential for successful conception⁸:

1. *Ritu* (Season):

Acharya Dalhana elucidated *Ritu* as the *Raja Samaya*, signifying the period of ovulation. Just as planting seeds during the appropriate season yields fruitful results, *Ritu* marks the most fertile phase when the *Garbhashya* (uterus) or *Yonimukha* (vaginal opening) becomes receptive to *sukra*, facilitating conception. *Bhavprakash* states that *Ritukala* is the optimal time for *Beejotsarga* (deposition of semen) and *Garbhadhana* (conception). This period typically spans 12 days⁹, though it can extend to 16 days¹⁰ or even the entire menstrual cycle¹¹ if the *Yoni*, *Garbhasaya*, and *Artava* (menstrual discharge) are in good health. In certain cases, *Ritukala* might occur without menstruation. *Acharya Dalhana* explains that within the twelve-day period, the first three and last one day are excluded from the count due to *Yoni* constriction. This phase is termed *Ritukala* as it is when the deposited seed (sperm) is most likely to result in conception.

Acharya Kashyapa specifies differing durations based on *varna* (social caste): 12 days for *Brahmani*, 11 days for *Kshatriya*, 10 days for *Vaishya*, and 9 days for *Kshudra*¹².

Acharya Bhawamishra presents another set of durations based on *varna*: 12 days for *Brahmani*, 10 days for *Kshatriya*, 8 days for *Vaishya*, and 6 days for *Kshudra*¹³.

These *Ayurvedic* teachings underscore the significance of *Ritu*, aligning with the natural rhythms of the body and the environment to enhance the chances of successful conception.

2. ***Kshetra***: In *Ayurveda*, *Acharya Dalhana* elucidated "*Kshetra*" as the "*Garbhasaya*" – the place of conception. It is also analogously associated with the female reproductive system. The maintenance of vaginal health is crucial. The cervix and its mucus should allow the passage of spermatozoa. The fallopian duct must remain open, and effective ciliary movement is essential. The uterus should possess the capacity to support both implantation and fetal development throughout pregnancy.

3. ***Ambu***: *Acharya Dalhana* characterized "*Ambu*" as the "*Aharapakotpanna rasa dhatu*" – the nutritive essence derived from sustenance. Adequate nourishment of the genital organs through this essence and balanced hormone levels are imperative. As per *Acharya Vagbhata*¹⁴, just as the lotus flower closes after sunset, the *yoni* (vagina) of a woman constricts after the *ritukala* (fertile period), rejecting the acceptance of *shukra* (sperm). This can be likened to the sun's setting being akin to decreased ovarian hormone levels, symbolized by the lotus flower, leading to the constriction of the cervical part of the uterus and hindering the entry of *beeja* (sperm).

4. ***Beeja***:- *Beeja Nirmana*, the process of conception, has been comprehensively elucidated in *Ayurvedic* texts. *Acharya Dalhana* explained *Beeja* as *Artava* (female reproductive tissue) and *Shukra* (male reproductive tissue). For successful conception, the ovum should be healthy, ovulation should occur, and the male partner should produce a sufficient number of motile and morphologically normal spermatozoa.

The scientific understanding of the physiology of *Beeja Nirmana* is expounded by *Vishvamitra* in *Sushruta Sutra* 14/14, with commentary by *Chakrapani*. He describes how *rakta* (the transformed state of *rasa* after entering the relevant channels) enters the minute channels (*Sukshma kasha pratikasha bijaraktavaha sirah*) and takes on a specific nuclear form, capable of forming the *beeja*.

In the same context, *Acharya Sushruta* explains that *rasa*, which attains *raktatva* through numerous *dhamani* (channels), transforms into the form of *artava* (menstrual fluid).

Acharya Kashyapa mentions that the entity responsible for forming the embryo undergoes *rajovaha shira* exposure, leading to *rajaha pravisarjana*. Subsequently, it transforms into a *pushpa* (flower-like structure), with its monthly progression¹⁵, governed by *apana vayu*, as mentioned in the *prakrita karma of apanavata*¹⁶. Similarly, the concept of *parisarpana* during coitus necessitates the presence of *agni*, which correlates with *pitta*¹⁷.

Kapha, associated with *Prithvi* (earth) and *Jala Mahabhuta* (water element), significantly contributes to the *Nirmanam Prakriya*. *Acharya Charaka* defines *Kapha karma*¹⁸ as "*upachya*," while *Acharya Sushruta* attributes *Kapha karma* to "*purantarpanabalasthairyakrit*¹⁹." These qualities collectively aid in the formation of *Beeja*. Furthermore, the interdependence (*Ashrayashrayi Bhava*) between *Kapha* and *Rasa* is pivotal in the formation of its sub-tissue, *artava*.

Any irregularity in these fundamental elements can lead to *Vandhyatva* (*Vandhyatva*). *Acharya Vagbhata* emphasizes that aside from a healthy *Garbhashaya* (uterus), *Marga* (pathways), *Rakta* (blood), *Shukra* (reproductive tissue), and well-functioning *Vayu* (vital airs), a stable psychological state is also imperative for successful conception²⁰.

[B] CAUSATIVE FACTORS:

Yoni, in *Ayurveda*, plays a vital role in reproductive health. *Vata* is recognized as a central factor contributing to the imbalance causing *Vandhyatva*²¹ (*Vandhyatva*). *Acharya Charaka* elucidates the *Nidana* (causal factors) of *Vandhyatva*²², which closely align with contemporary *Vandhyatva* causes.

1. **YONI PRADOSHA:** The term "*Yoni*" pertains to the entire female reproductive system encompassing the vagina, cervix, uterus, endometrium, and fallopian tubes. This category includes congenital or acquired conditions affecting these anatomical components.
 - **Yonivyapad:** All twenty *Yonivyapad* are associated with *Vandhyatva* if left untreated.
 - **Injury to Artavavaha Strotas:** *Acharya Sushruta* includes *Vandhyatva* symptoms alongside dyspareunia and amenorrhea in cases of injury to *Artavavaha Strotas*.
 - **Yoniarsh:** *Yoniarsha*, within the *yonis*, disrupts *Artava* (female reproductive fluid), leading to *Vandhyatva*.
 - **Garbhakoshabhanga**²³: The term "*Bhanga*" denotes uterine prolapse or retro-displacement, contributing to *Vandhyatva*.
 - **Bhagasankocha**²⁴: Pre-menarche coitus can cause deep vulva and vaginal tears, leading to scar formation, vaginal constriction, and incomplete coitus, resulting in *Vandhyatva*.
 - **Sphalita Mutratwa:** Girls with strictures, partial urethral obstructions, or spasms (often due to gonorrheal urethritis) may experience *Sphalita mutratwa*, a common cause of *Vandhyatva*.
 - **Utkshipta Yoni:** Upward displacement of the cervix in retroverted uterus cases can lead to *Vandhyatva*.
 - **Aticharana yoni vyapad:** Excessive coitus results in this condition. Intense sexual desire leads to vaginal itching and increased mucoid secretion due to *Kapha* imbalance, described by *Acharya Sushruta*.

- **Vamini yonivyapad:** Acharya Charaka describes this condition where *shukra* is expelled with or without pain within 6 to 7 days of entering the uterus. It might arise due to cervical or fallopian tube obstructions, leading to the discharge of sperm without fertilization. Acharya Sushruta highlights that *yonis* excretes *beeja* mixed with *raja* and *vata*²⁵, akin to an issue in implantation. Both conditions contribute to *Vandhytva*.
- **Putraghni yonivyapad:** Aggravated *Vata*, influenced by *Ruksha guna* and *dushta shonita*, can repeatedly harm the fetus.
- **Shandhi yonivyapad:** Abnormal *beeja* affects the female fetus' *Ashaya* (uterus), resulting in *Vayu* influence. This can lead to underdeveloped breasts, aversion to coitus, and absent menstruation in the child's later life.

2) MANSIKA ABHITAPA (Psychological Harmony): A balanced psychological state between couples plays a vital role in achieving pregnancy. Emotional well-being²⁶, influenced by fear (*Bhaya*), mental distress (*Vimana*), grief (*Shoka*), anger (*Krodha*), and similar factors, can disturb the *Vata dosha*. It's believed that such disturbances, when compounded by *Vishada* (depression), worsen existing imbalances. *Saumnasya*, a sense of unity and harmony, is considered essential for successful conception.

3) SHUKRA DOSHA (Issues with Reproductive Elements): All eight types of *Shukra dusthi* (abnormalities) hinder the ability to conceive. Quantitative and qualitative abnormalities in sperm, along with issues in seminal fluid, lead to *Vandhytva*. The concept of *Pitruja Bhava* suggests that six factors from the paternal side are transmitted to the embryo through the sperm.

4) ARTAVA DOSHA (Ovum-Related Issues): *Artava* refers to the ovum, menstrual blood, and ovarian hormones. *Nashtartava*, the loss of ovum, is a significant cause of *Vandhytva*. When *Artava* is affected by different doshas, *Ashtartava dushti* occurs, resulting in *Vandhytva* due to disruption of the ovum's potential to be fertilized.

5) AHARA DOSHA (Dietary Irregularities): Diet-related imbalances contribute to *Vandhytva* in three ways:

- By causing the depletion of *Dhatu* and their corresponding metabolic processes (*Dhatvagni*), impacting hormones.
- By disturbing *Dosha*, leading to various gynecological disorders that can result in *Vandhytva*.
- By obstructing the nourishment of a fertilized egg or the implantation of a zygote.

6) VIHARA DOSHA (Lifestyle Factors): Abnormal ways of living and *Vegavidharana*²⁷ (the suppression of natural urges) aggravate *Dosha*, giving rise to diverse gynecological issues. Engaging in sexual intercourse during *Nyubja* or *Parshvaavastha*²⁸, ejaculating semen on *Samirana Nadi*²⁹ or outside the vagina, all contribute to defective practices. These situations often prevent proper deposition of semen in the vaginal canal, leading to failed sperm entry into the uterus. Lifestyle imbalances cause *Vandhytva* in two primary ways:

- By disturbing *Dosha*, which in turn cause gynecological problems.
- By obstructing the proper delivery of sperm due to incorrect seminal deposition.

7) AKALA YOGA (Inopportune Timing): The term "*Kala*" pertains to both age periods and the right time for conception (*Ritukala*). In young girls before menarche and in elderly women during menopause³⁰, as well as before or after the appropriate *Ritukala*, conception may not occur due to the absence or destruction of the ovum.

8) BALA KSHAYA (Weakened Vitality): Bala refers to physical strength and the capacity to conceive. It relies on the *Dhatu*, and the loss of *Bala* due to *Dhatukshaya*, occurring as a complication of diseases, premature aging, or unknown causes, can lead to *Vandhytva*.

9) ATMA DOSHA (Spiritual Influences): This category encompasses *Vandhytva* resulting from past-life misdeeds of the couple and disturbances related to the descending spirit (*Atma*) during pregnancy. Previous-life wrongdoings refer to unexplained causes, while abnormalities in the *Atma* incorporation into the fertilized egg could potentially affect conception.

10) JATAHARINI (Fetal Disruptive Factors): *Jataharini* disrupt the formation of viable reproductive elements, the body, the embryo, and the born or unborn children. *Acharya Kashyapa* highlights different types of *jataharini* characterized by repeated miscarriages at various gestational stages—*Andaghni*, *Durdhara*, *Kalaratri*, *Nakini*, *Vashya*, and more³¹.

11) Daivaprakopa: This term pertains to the idiopathic etiology of *Vandhytva*.

12) Beejadushti: When the gene associated with the uterus is impaired in the ovum, it leads to sterility in the offspring.

13) Samshodhana vyapad³²: If excessive medications for *Vamana* and *Virechana* are administered to an individual with a delicate constitution, even after appropriate *Snehana* and *Svedana*, an imbalance in *Jeevrakta* (life-sustaining fluid) can occur. This imbalance in *Vayu* (vital force) can lead to the deterioration of *beeja* (sperm and ovum) and *pushpa* (menstruation).

In accordance with contemporary science, Infertility³³ can arise from factors related to the vagina, cervical issues (5%), the uterus (10%), the fallopian tubes (25 to 30%), the ovaries (30 to 40%), peritoneal aspects (5%), and coital errors³⁴.

Discussion:

By aligning *Ayurvedic* concepts with contemporary scientific insights, we find common threads in understanding the etiology of *Vandhytva*. The holistic approach of *Ayurveda* and the evidence-based approach of modern science converge on the significance of hormonal balance, lifestyle choices, mental well-being, and environmental factors in influencing fertility.

CONCLUSION:

The global trend is shifting towards a scientific approach. In an era driven by rationality, there is a collective inclination towards quantifying phenomena based on scientific parameters. In the context of *Ayurveda*, it becomes imperative to comprehensively examine, grasp, and validate its principles, especially through the lens of modern scientific criteria. *Ayurveda* emphasizes *Nidan-parivarjana* as the primary therapeutic strategy, necessitating an understanding of causative factors and the pathophysiology of a condition before embarking on treatment. The aforementioned discourse underscores the scientific investigation into the etiological foundations of *Vandhytva* from both an *Ayurvedic* perspective and its correlation with contemporary scientific understanding.

References:-

¹Sushruta Samhita By Ambika Dutta Shastri Part 1st & 2nd, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition 2012, uttarstana 38

²Agnivesha, Charaka, Dridhbala, Charaka Samhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi,2014, Sha. 4/30; 877

³Agnivesha, Charaka, Dridhbala, CharakaSamhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi,2014, Ch. Chi. 30/16; 842

⁴Agnivesha, Charaka, Dridhbala, Charaka Samhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi, 2014, Ch. Sha. 2/7; 838

⁵Harita Samhita, Trutiya Sthana Hariharprasad Tripathi, Chaukambha, Krishnadas Academy, Varanasi, Edition 2th 2009, 48/2-6; 448

⁶Agnivesha, Charaka, Dridhbala, Charaka Samhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi 2014, Ch. Sha

⁷Agnivesha, Charaka, Dridhbala, Charaka Samhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi 2014, Ch. Sha.3/3,851

⁸Sushruta Samhita By Ambika Dutta Shastri Part 1st & 2nd, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition 2012,

⁹Sushruta Samhita By Ambika Dutta Shastri Part 1st & 2nd, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition 2012, Sha. 3/5; 26

¹⁰Bhava Prakasha (part 1&2) Bhavamishra with Vidhyotini Hindi commentary by Shri Brahma Shankar Mishra, 9th edition 1999, purvakhanda garbhaprakarana 3/2; 20

¹¹A. S. Sha. 1/40; 16

¹²Kashyapa Samhita, Pt. Hemraja Sharma, Vidyotini Hindi commentary, Chaukhamba Sanskrit Sansthan, Varanasi Reprint 2013, sharira sthan jatisutriyadhyaya/5; 80

¹³BhavaPrakasha (part 1&2) Bhavamishra with Vidhyotini Hindi commentary by Shri Brahma Shankar Mishra, 9th edition 1999,Purvakhanda 3/2; 20

¹⁴Ashtanga Hridaya commentary by Kaviraja Atridev Gupta, Chaukhambha Prakashana, varanasi, Reprint 2016, Sha.1/ 21; 232

¹⁵Kashyapa Samhita, Pt. Hemraja Sharma, Vidyotini Hindi commentary, Chaukhamba Sanskrit Sansthan, varanasi Reprint 2013, Ka. Khil. 9/17; 287

¹⁶Agnivesha, Charaka, Dridhbala, CharakaSamhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi, 2014, Ch. Chi. 28/11;778

¹⁷Sushruta Samhita By Ambika Dutta Shastri Part 1st & 2nd, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition 2012, Su. Sha. 2/36,

¹⁸Agnivesha, Charaka, Dridhbala, Charaka Samhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi,2014, Ch. Su. 12/12,250

¹⁹Sushruta Samhita By Ambika Dutta Shastri Part 1st & 2nd, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition 2012, Su. Su. 15/6, 74

- ²⁰Ashtanga Hridaya commentary by Kaviraja Atridev Gupta, Chaukhambha Prakashana, Varanasi, Reprint 2016, Sha. 1/ 8; 230
- ²¹Kashyapa Samhita, Pt. Hemraja Sharma, Vidyotini Hindi commentary, Chaukhamba Sanskrit Sansthan, Varanasi ,Reprint 2013,Ka.Su. 27/29; 42
- ²²Agnivesha, Charaka, Dridhbala, CharakaSamhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 ChaukhambaBharti Academy, Varanasi,2014
- ²³Harita Samhita, Trutiya Sthana Harihar prasad Tripathi, Chaukambha, Krishnadas Academy, Varanasi, Edition 2th 2009, 48/1-2;448
- ²⁴Harita Samhita, Trutiya Sthana Hariharprasad Tripathi, Chaukambha, Krishnadas Academy, Varanasi, Edition 2th 2009, 48/5;448
- ²⁵Mohammad, Sikender Mohsienuddin, Cloud Computing in IT and How It's Going to Help United States Specifically(October 4, 2019). International Journal of Computer Trends and Technology (IJCTT)– Volume67Issue10–October 2019,Available at SSRN: <https://ssrn.com/abstract=3629018>
- ²⁶Sushruta Samhita By Ambika Dutta Shastri Part 1st & 2nd, Chaukhambha Sanskrit Sansthan, Varanasi, reprint edition 2012, Su. U. 38/12; 205
- ²⁷Ashtanga Hridaya commentary by Kaviraja Atridev Gupta, Chaukhambha Prakashana, Varanasi, Reprint 2016, Sha.1/8; 230
- ²⁸Bhela Samhita with Hindi translation edited by Abhay katyayan, published by Chaukhambha Surbharati Prakashana, Varanasi, 1st edition, 2009, Bh. Sha. 3/4 ; 205
- ²⁹Agnivesha, Charaka, Dridhbala, CharakaSamhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi,2014, Ch. Sha. 8/6, 920
- ³⁰Bhava Prakasha (part 1&2) Bhavamishra with Vidhyotini Hindi commentary by Shri Brahma Shankar Mishra, 9th edition 1999, Purvakhanda 3/17; 22
- ³¹Agnivesha, Charaka, Dridhbala, Charaka Samhita, elaborated Vidyotini Hindi Commentary by Pt. Kashinatha Shastri and Dr. Gorakha Natha Chaturvedi, Part-1,2 Chaukhamba Bharti Academy, Varanasi,2014, Ch. Sha 8/6; 920
- ³²Kashyapa Samhita, Pt. Hemraja Sharma, Vidyotini Hindi commentary, Chaukhamba Sanskrit Sansthan, varanasi Reprint 2013, Ka. K. 6/36 – 38, 42,49; 192
- ³³Kashyapa Samhita, Pt. Hemraja Sharma, Vidyotini Hindi commentary, Chaukhamba Sanskrit Sansthan, varanasi Reprint 2013, Ka. S. Si. 3/20; 157
- ³⁴Text Book of Gynaecology including Contraception D. C. Dutta, 6th edition, Chapter 16, Pg – 229-230