

HOLISTIC APPROACH FOR SUCCESSFUL CONCEPTION**Dr. Parate Mamta Mahadeo¹ and Bhigode Hemraj Konduji²**¹Reader, Dept. of Rachana Sharir, S. D. Ayurved College, Ranchi (Jharkhand), India-835217.²Associate Professor, Dept. of Agadtantra, Government Ayurved College, Nagpur (M.S), India- 440024.***Corresponding Author: Dr. Parate Mamta Mahadeo**

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ABSTRACT

Infertility is raising globally, though the modern therapeutic measures are developed. Both male and female partners contributes in 20-30% cases of infertility. Modern lifestyle changes are the root cause of this scenario. Pregnancy starts with the union of the male and female gametes. Minute defects in the gametes, reproductive system of the female and psycho-hormonal status of the couple may leads to ineffective conception. This results in unhealthy pregnancy outcomes. For the successful conception and better pregnancy outcome, the pre-requisites mentioned by Ayurveda are- kshetra (female reproductive system), beeja (sperm and ovum), rutu (fertile period), ambu (nutritive ahar rasa), hrudya condition (normal psyche of the couple), vayu (normal neuro-hormonal pathway). In these pre-requisites all the preventive and therapeutic modalities are provided. Preventive measures starts from the purification of the bodies of the couple and so on. Later on various regimes and rituals are advised according to related factors. Ayurveda has focused keen attention on each and every aspect. Following, basics and modalities of the holistic science can improve the process of production of healthy genome. It not only overcomes the problem of infertility but also can provide physically and psychologically healthy new generation.

KEYWORDS: infertility, lifestyle changes, conception, prerequisites, Ayurvedic modalities.**INTRODUCTION**

Conception is a process of union of the normal male and female gametes (i.e. spermatozoon & oocyte).^[1] This process naturally occurs in the female genital tract.

Every couple like to enjoy their early married life with full pleasure in sexual activities. By nature, the unprotected sexual intercourse may results in the conception. Majority of the couples planned for the pregnancy accordingly. Conception is said to be successful when the zygote penetrates the endometrium and developed in a healthy genome. For the production of healthy genome, a physical, psychological, hormonal, spiritual normalcy of the couple is a need². Also a proper time of sexual intercourse and healthy surrounding are unavoidable.^[3]

Nowadays infertility is quite common in both men and women. Both men and women factors contributes in 20-30% infertility cases globally, while etiopathogenesis of 5-7% cases remain undiagnosed.^[4] In the society, only women are blamed for the infertility. In the modernization, attention towards proper marital age, physical health, psychological and spiritual normality is lacking day by day. Hectic job schedules, altered food habits, uncontrolled passions for achievement, easily available unhealthy online materials, polluted

environment adds disturbances to normalcy of the human being.^[2] This may leads to unhealthy conditions for the conception, like formation of the defective gametes, diseases of the reproductive systems, nutritional deficiencies, etc. This results in failure of conception and unwanted outcomes of the pregnancy.^[5] It hampers the joy of parenthood. It also results in familial discriminations too.

Ayurveda is a holistic science of life. It provides guaranteed preventive as well as therapeutic measures for the wellbeing of human. For the successful conception and pregnancy outcome, the pre-requisites mentioned by Ayurveda are - kshetra, beeja, rutu, ambu, hrudya condition and vayu.^[6] In these pre-requisites all the preventive and therapeutic modalities are provided. Preventive measures starts from the purification of the bodies of the couple and so on. Later on, various regimes and rituals are advised for successful conception and pregnancy. Ayurveda focused on proper age of marriage, remedies for purification of the body (to expel unwanted material from the body), proper time for intercourse, rejuvenation remedies, entities for positive psychological attitude to care hormonal imbalance, etc., for the successful conception. Ayurveda has been focused much attention on the formation of the healthy and disease free gametes.

For better outcomes regarding maternal and foetal wellbeing, pregnancy should be planned. It should not be by chance. Well planned pregnancy results in more successful conception. It avoids further unwanted outcomes of the pregnancy.

Though various methods of ex-fertilization are developed, every woman wants to enjoy the joy of pregnancy in the self-body. To increase the fertility ratio and for better pregnancy outcome, the conception must be successful. So it is a need of modern era to go through holistic approach of conception.

AIM

To provide holistic modalities of Ayurveda for successful conception.

OBJECTIVES

- 1) To collect, arrange and explain all the Ayurvedic data regarding 'conception' through various Ayurvedic scriptures (classics).
- 2) To aware and educate the people about better modalities for successful conception through holistic science of medicine.
- 3) To enlighten holistic approach for joyful married life.
- 4) To explain the basic of Ayurveda in modern scientific language.

MATERIAL AND METHODS

Literature reviewed from ayurvedic scriptures like Charak Samhita, Sushrut Samhita, Ashtanga Sangraha, Ashtang Hrudaya, etc., from the classics of basic ayurvedic principles, literature of modern science and online published ethical data. Data required for this research was studied, analysed, compiled and discussed.

Ayurveda has been described the process of conception through following pre-requisites:

- 1) Garbhashaya marga / kshetra (female reproductive system)
- 2) Beeja i.e., shukra and shonit (spermatozoa and oocyte)
- 3) Rutukala (fertile period in a woman)
- 4) Ambu / rasa (Nutritious material for gametes and fetus)
- 5) Hrudya (psychological soundness of the couple)
- 6) Vayu.

1) Garbhashaya marg: it includes yoninalika, garbhashaya, beejavahini (dimbapranali).

a) Yoninalika: It includes external opening and internal canal of the yoni (vagina). External opening of yoni is situated below the smarpatra (i.e. clitoris).^[7]

It is divided into three parts (avartas). From external to internally these are named as madnatpatra, kandarpagaha and upasthagarbha. These parts may be resembles to

external genitalia and fornices in female. These three parts are supported by Samirana nadi, Chandramasi nadi and Gouri nadi respectively. Semen ejaculation in Chandramasi and Gouri parts may result in conception.^[8]

b) garbhashaya (uterus): It is attached to third avarta of yoni.^[9] This is described as 'garbhashayya'.^[10] Garbha (product of conception/ foetus) develops in this part. It is developed from essence of rakta and mamsa and is derived from intestines.^[11] This is situated between pakwashaya (sigmoid colon, small intestines) and basti (urinary bladder)^[12] It is considered as 'artavavaha strotas'^[13] Doctor Ghanekar explained it as uterine arteries (capillary bed).^[14] These strotasa flows artava (menstrual blood).^[15]

c) beejavahini / dimbapranali (fallopian tubes with ovaries): In Ayurveda these parts are described unitely as 'aartavvahi dhamanyah'^[16] Acharya Sushruta has been described as 'masenupachitam kale dhamni-bhyam tadartavam'. It can be correlated with the maturation of the Graffian follicle and release of an oocyte in fallopian tubes.

Injuries or removal of garbhashaya & beejavahini may result in vandhyatva (infertility), maithun asahishnutva (dyspareunia) and aartavanash (amenorrhoea)^[16]

2) Beeja: This is a pleural word. It mentions purushbeeja and stribeeja. Purushbeeja resembles to spermatozoa. Stribeeja resembles to Graffian follicles and ovum.

a) purushbeeja: This is described as 'shukra' in ayurveda. It is developed and liable to fertilize ovum at 16 years of age.^[17] It must be spatikabh (like a crystal), drava (liquid), snigdha (viscus), madhur (sweet), madhugandhi (honeysmelled), soumya (cold), shukla (white), guru (heavy), bahal (thick), bahu (enough inquantity), pichchhil (slimmy).^[18,19] The male should be married at or after 25 years of age.^[20,21]

b) stribeeja: This is described as 'pushpa', 'shonit', 'artava', etc., in Ayurveda. It is present in females in underdeveloped state since foetal life.^[22] It gets matured at the age of 12 years.^[23] After maturity, it is released monthly into the yoni (fallopian tubes).^[24] If not fertilized it is expelled out through yoni.^[25] Though the ovum get matured at 12 years of age, the conception should be at or above sixteen.^[20,21,26]

3) rutu (rutukala): It pertains to the duration of release of the ovum (5th to 16th days) in each menstrual cycle.^[27] Unprotected intercourse in this duration is more suitable for the conception.^[28] After rutukala, the yoni (cervix) gets constricted and does not accept the entry of the 'shukra'(spermatozoa) into its inner components.^[29] The impregnation after

the rutukala results in a heen (weak), durbala (unstable), asthir (unsteady), adrudha(thin), bhangur (fragile) child having less properties than a normal child.^[30]

- 4) **ambu (rasa):** It resembles to the nutritious material in the blood circulation which nourishes the shukra (semen) and raja (Graffian follicles).^[31] Dr. Ghanekar considered it as the nutritious material provided by a mother to the product of conception through the garbhashayya (endometrium) and garbhanabhinadi (umbilical cord). This is the end product of the consumed food material.^[32] So the quality of ambu depends on the quality of food materials consumed.
- 5) **hrudya:** It resembles to physical and psycho-hormonal status of both partners who are willing for the conception. Vriddha Vagbhata had clearly mentioned that a product of conception in the abnormal status (physical and psycho-hormonal) of parents may suffer by kleshkarak (deadly) diseases.^[33]

So to avoid or overcome the physical and psycho-hormonal abnormalities, Ayurveda has been suggested some therapies before trying for the pregnancy. After completion of purifactory treatment, one can tried for the pregnancy in rutukala. For achievement of conception, pleasant mood is essential.^[34,35] During this period husband and other family members should wear happy faces, use polite words, should be gentle by behaviour and acts with the woman.^[36] In such a surrounding the couple feeling carnal relation should go for intercourse (in appropriate auspicious period of night), on the comfortable cot spreaded with soft mattress and sprinkled with pleasant fragrance.^[37] Whatever type of

diet, behaviour, thoughts and conduct is followed by the couple at the time of intercourse, born child possesses similar characters.^[38] The intercourse should be performed in seclusion.^[39] The female should be in supine with male in prone position on her during intercourse.^[40]

Intercourse should be performed in all nights of rutukala period.^[41] After that period, intercourse should not be performed upto next rutukala, because if conception has taken place, then jerks to garbhashayamukha (cervix uteri) can initiate abortion.^[42] After retention of shukra in, the wife should avoid working near fire, exposure to hot weather, excessive labour work, exercise and grief^[43]. On being sure about absence of pregnancy by reappearance of menstruation the subsequent intercourse should be done in next rutukala.^[42]

6) **vayu :** Vayu is a divine element which performs and controls all the processes going on in the human body. So it is described as 'yantra-tantra dhara'.^[43] 'Apanvayu' is one of the part of the vayu which regulates the processes in lower abdomen and pelvis. It proceeds and controls the elimination of the 'shukra'(semen) and release of shonit (ovum).^[44] It also facilitates the cell division and formation of structure of the foetus.^[43]

Penetration and retention of shukra (spermatozoa) in the garbhashayamarga (female genital tract) is governed by 'Vyan' vayu.^[45]

Conception

The couple willing for pregnancy should go through therapeutic regime for the normalcy of the reproductive system, balancing the tridosha, and formation of the healthy gametes.^[48]

Table 1: Therapeutic regime for the couple willing for conception.^[46,47]

Male	Female
Purification of the body by oleation, sudation, vaman (puification by upper G.I. tract), virechan (purification by purgation), asthapana (evacuative enema), anuvasana (nutritive enema), in uttarbasti (medicines enema through urethra), etc. measures.	Purification of the body by oleation, sudation, vaman (puification by upper G.I. tract), virechan (purification by purgation), asthapana (evacuative enema) anuvasana (nutritive enema), in uttarbasti (medicines enema through urethra), etc. measures.
Followed by oral medicines according to shukra vikruti (i.e., abnormalities of semen).	Followed by oral medicines according to artava vikruti (i.e., abnormalities of egg and menstruation).
After the cure from shukra vikruti, regular intake of rice with ghrít (ghee) and kshir (milk) processed with drugs of madhur varga.	After the cure from artava vikruti, regular intake of tail (oil) and masha (a sort of kidney bean) processed with drugs of madhur varga.

During this regime, abstinence for sexual activities must be followed.^[49] After the purification of the body and formation of the healthy gametes, the couple can try for the pregnancy. Couple willing for pregnancy should perform intercourse in all favourable conditions, in appropriate auspicious period of all nights of rutukala.^[50]

During intercourse, due to excitement and pleasure 'vayu' (apanvayu) gets activated by 'teja' in male. Activated vayu and teja ejaculates 'shukra (semen) in the yoni (vagina) of the female partner this shukra contains 'purushbeeja' (spermatozoa). With the help of vayu and teja this 'purushbeeja' reaches to 'yoni' (uterus). In the

Yoni, Shukra (spermatozoa) and artava (ovum) remain unstable for some time. Later on both get united with each other. This process of union of Shukra (spermatozoon) and artava (ovum/oocyte) in the female reproductive system is called as 'shukra-artava sansrujan' (conception).^[51] The product of union (zygote) stays in Garbhashaya for some period with the help of Agni and Soma.^[51] It goes through various changes.^[52] Later on it gets embedded in the Garbhashaya.^[51] At the very time, due to association of Satva (man), the Jivatma comes in the product of sansrujan. Now the product is called as 'garbha'.^[53] This entire process is called as 'garbhashapana'. Later on Vayu periodically develops all parts in garbha to form the foetus. Ambu provides all nourishment to the developing product of conception.

DISCUSSION

Global ratio of infertility is increased in last 10 to 15 years. In 5 to 7% cases of infertility, diagnosis is not confirmed. Many lifestyle disorders like stress, dyslipidemia, obesity, endometriosis, hormonal imbalances, nutritional deficiency and so many other factors are playing a major role for infertility. Lack of knowledge about sexual behaviour and activities, proper period for conception, proper food habits, proper regimes for pregnancy are proving boon in infertility of unknown origin. Conception without proper planning may be missed in some hours or days. Such cases are not diagnosed properly and may be recurrently stamped to be infertile.

Ayurveda provides better modalities and therapeutic measures by overcoming the basic reasons and treating the developed pathology. Ayurveda has been focused on all aspects for successful conception and desired pregnancy outcome. In Ayurveda all requirements, modalities and therapeutic measures for successful conception are described under six elements, i.e. kshetra, beeja, rutukala, Ambu, hrudaya and Vayu.

In detail anatomy and physiology of the reproductive system has been described in Ayurveda. Generation of the 'sribeeja' (dormant Graffian follicles) since birth and presence of 'shukra' in all body parts of the male proves the very well developed scientific knowledge of Ayurveda. Proper age of marriage as 25 and 16 for male and female respectively signifies the full development of reproductive systems. Spermatozoa and oocyte should be devoid of any abnormalities. Also the physical and psycho-hormonal status of the couple should be sound. Impurified body can develop vitiated beeja (gametes) which can lead to the hereditary and congenital anomalies. Purifactory treatments balance tridosha, rejuvenate all dhatu (constructive element) and normalise neuro-hormonal activities. Consumption of rice, ghrut and milk provides sneh (lubricacy), cholesterol and other energy sources for the body. Ghrut normalises disturbed hormones and psyche, rejuvenate reproductive system and heals injuries.^[54] Cholesterol is the main precursor for testosterone and oestrogen. Good cholesterol is

healthy for the brain and heart also.^[55] Sesamum oil has sukshma, ushna, vyavayi, vatghna^[56] and garbhashaya vishodhana^[57] properties. These properties help for normal menstruation, maturation and release of an egg. Some studies also suggest that the level of sex hormones are increased by the diet containing healthy proteins and fats. This improves the sexual desire and erections.^[58] Abstinence from sexual activities supports the body to recover naturally, after therapeutic regimen. It also aids in healing of the reproductive system.

"Saumyakrutivachanopcharcheshta...." indicates the focus on normalising psyche, which ultimately results in mental soundness, secretion of required hormones and neurotransmitters. Their role in normalcy of reproductive system and sexual life is well proved.

'Rutukala' is a duration of the ovulation. So couple willing for pregnancy should do intercourse in rutukala. Physical, psycho-hormonal soundness of the couple during intercourse helps for successful conception. The supine position of the female with a male in prone position during intercourse facilitates the natural way for the spermatozoa in the female genital tract. It eases the penetration of spermatozoa and saves its energy for further process.^[40]

After penetration into the female genital tract, the sperm undergoes the process of capacitation. After that it ruptures the tough membrane of the oocyte. After penetration, it unites with oocyte to form the 'zygote'. This is called as 'conception'. It takes 2 to 3 days after intercourse. This zygote gets embedded in the endometrium on near about 20th day of the cycle.^[59] But due to some jerks or trauma to female abdomen and pelvis this product of conception, may be expelled out. In this way the further process of the pregnancy gets stopped. Such cases are not diagnosed well. So they are unnecessarily prone to multiple pathological, radiological and so many other investigations. They are put on prolonged treatment without any diagnosis. So Ayurveda has advised to stop all types of hard works and intercourse after rutukala. It helps in embedding and further growth of the zygote normally.

'Vayu' is the main active element of the body. Balanced Vayu governs all the activities. 'Apan' Vayu triggers the release of the semen and ovum. 'Vyan' Vayu facilitates the retention and movements of spermatozoa in the female reproductive system. These actions of the Apan and Vyan can be correlated with the neuro-hormonal activities of the body. Vayu facilitates the further divisions of the zygote to develop further normally.^[60] So the food habits, other activities, psyche and behaviour of the couple should be for the balancing of the Vayu which governs the further development of the zygote in the foetus.

Also the fusion of the gametes and implantation of the zygote into endometrium requires a suitable environment

into female reproductive system. Progesterone maintains the temperature for the viability of the gametes. It also increases blood supply, water contents, nutritional material for the developing egg. This action can be correlated with 'agni-soma' element described in Ayurveda.

'Ambu' resembles to the end result of the digested nutritious diet which provides nutrition for the formation and maturation of the vital gametes as well as for the development of the product of conception. So, healthy food habits leads to the formation of the healthy gametes and better nutrition of the product of conception.

CONCLUSION

Ayurveda is a holistic science of medicine. It provides preventive as well as curative health care for the human being. It deeply focused on all aspects regarding conception and pregnancy. Modern science has elaborated all the basics of Ayurveda. Modalities and therapeutic measures mentioned for the successful conception and better pregnancy outcome are strongly beneficial to overcome the infertility. This is a need of this era to revitalize the holistic science of medicine and adopt its modalities to incorporate its benefits for the healthy progeny.

REFERENCES

1. Agarwal A, Mulgund A, Hamada A, Chyatte MR. A unique view on male infertility around the globe. *Reproductive Biology and Endocrinology: RB&E*. 2015; 13: 37. doi:10.1186/s12958-015-0032-1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4424520/>.
2. K. Hammarberg, J.R.W. Fisher, K.H. Wynter; Psychological and social aspects of pregnancy, childbirth and early parenting after assisted conception: a systematic review, *Human Reproduction Update*, September, 2008; 14(5): 395–414. <https://doi.org/10.1093/mn030>.
3. Allen J. Wilcox., Clarice R. Weinberg, and Donna D. Baird; Timing of Sexual Intercourse in Relation to Ovulation -Effects on the Probability of Conception, Survival of the Pregnancy, and Sex of the Baby, *N Engl J Med* 1995; 333: 1517-1521 DOI: 10.1056/NEJM199512073332301, <http://www.nejm.org/doi/citedby/10.1056/NEJM199512073332301#t=article#t=citedby>.
4. Agarwal A, Mulgund A, Hamada A, Chyatte MR. A unique view on male infertility around the globe. *Reproductive Biology and Endocrinology: RB&E*, 2015; 13: 37. doi:10.1186/s12958-015-0032-1. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4424520/>.
5. Dutta DC. *Textbook of Obstetrics*. Chapter 10, Antinatal Care, Preconceptional Counselling and Care, New Central Book Agency (P) Ltd, Kolkata (India), 7th Edition: reprinted, 2013; 99-103.
6. Dr. Brahmanand Tripathi, Editor: *Ashtanghrudayam of Shrimad Vagbhata*, Edited with 'Nirmala' Hindi commentary, Sharir Sthan, Chapter 01, Verse 08, Reprint. Dehli: Chaukhmba Sanskrit Pratishthan, 2007; 339.
7. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 5, Verse 10, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010.
8. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 5, Verse 43, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010.
9. Dr. Athwale AD, Editor: *Ashtang Sangraha of Shrimad Vriddha Vagbhata*, Edited with 'Indu' Com., Sharir Sthan, Chapter 05, Ver. 57, 1st Edition. Pune: Shrimad Atreya Prakashanam, 1980; 303.
10. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 5, Verse 39-43, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010.
11. Dr. Brahmanand Tripathi, Editor: *Ashtanghrudayam of Shrimad Vagbhata*, Edited with 'Nirmala' Hindi commentary, Sharir Sthan, Chapter 03, Verse 12, Reprint. Dehli: Chaukhmba Sanskrit Pratishthan, 2007; 339.
12. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 6, Verse 39-43, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010.
13. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 9, Verse 12, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010.
14. Dr. Ghanekar BG, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'ayurvedrahasyadi-pikaakhyaya', Sharir Sthan, Chap. 09, Ver.22, Reprint. New Delhi: Meharchand Lachhmandas Publications, 2006; 243-244.
15. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 9, Verse 07, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010.
16. Kaviraja Ambikadutta Shastri, Editor: *Susrut Samhita of Maharshi-Sushruta*, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 9, Verse 12, Second Edition. Varanasi: Chaukhmba Sanskrit Sansthan, 2010; 72.
17. Bhisagacharya S, translator: *Kashyapa Samhita of Vriddhajivak*, Sharir Sthan, Chap 04, Ver. 36, 8th Edition. Varanasi: Chaukhmba Sanskrit Sansthan; 2002.
18. Srikantha Murthy KR, Editor: *Ashtanga Samgraha of Vagbhata*, Sharir Sthana, Vol.2, Chapter1, Ver.

- 04, 4th Edition. Varanasi: Chaukhambha Orientalia, 2003; 03.
19. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 02, Verse 13, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 11.
 20. Srikantha Murthy KR, Editor: Ashtanga Samgraha of Vagbhata, Sharir Sthana, Vol.2, Chapter1, Ver. 03, 4th Edition. Varanasi: Chaukhambha Orientalia, 2003; 02.
 21. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 10, Verse 58, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 82.
 22. Vd. Kushavaha H, Editor: Charak Samhita of Agnivesha, Edited with 'Ayushi' hindi co. on Chakrapani co., Sharir Sthana, Chap. 04, Ver. 30, Varanasi: Chaukhambha Orientalia.
 23. Srikantha Murthy KR, Editor: Ashtanga Samgraha of Vagbhata, Sharir Sthana, Vol.2, Chapter1, Ver. 11, 4th Edition. Varanasi: Chaukhambha Orientalia, 2003; 05.
 24. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 03, Verse 10, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 21.
 25. Bhisagacharya S, translator: Kashyapa Samhita of Vriddhajivak, Khil Sthana, Chap 09, Ver. 17, 8th Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2002; 287.
 26. Dr. Brahmanand Tripathi, Editor: Ashtanghrudayam of Shrimad Vagbhata, Edited with 'Nirmala' Hindi commentary, Sharir Sthana, Chapter 01, Verse 08-09, Reprint. Dehli: Chaukhmba Sanskrit Pratishthan, 2007.
 27. Dr. Athwale AD, Editor: Ashtang Sangraha of Shrimad Vriddha Vagbhata, Edited with 'Indu' Com., Sharir Sthana, Chapter 01, Ver. 19, 1st Edition. Pune: Shrimad Atreya Prakashanam, 1980; 264.
 28. Shri Mishra B, Editor: Bhavaprakasha of Shri Bhavamishra, Edited with 'Vidyotini' Hindi commentary, Purvakhand, Chap. 03, Ver.02, 7th Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2000.
 29. Srikantha Murthy KR, Editor: Ashtanga Samgraha of Vagbhata, Sharir Sthana, Vol.2, Chapter1, Ver. 21, 4th Edition. Varanasi: Chaukhambha Orientalia, 2003; 10.
 30. Bhisagacharya S, translator: Kashyapa Samhita of Vriddhajivak, Sharir Sthana, Chap 05, Ver. 05, 8th Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2002.
 31. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sutra Sthana, Chapter 14, Verse 06, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 48.
 32. Dr. Ghanekar BG, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'ayurvedrahasyadipekaakhyaya', Sharir Sthana, Chap. 03, Ver.40, Reprint. New Delhi: Meharchand Lachhmandas Publications; 2006; 97-99.
 33. Srikantha Murthy KR, Editor: Ashtanga Samgraha of Vagbhata, Sharir Sthana, Vol.2, Chapter1, Ver. 21, 4th Edition. Varanasi: Chaukhambha Orientalia. 2003; 02.
 34. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sutra Sthana, Chapter 25, Verse 40, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001; 454.
 35. Srikantha Murthy KR, Editor: Ashtanga Samgraha of Vagbhata, Sharir Sthana, Vol.2, Chapter1, Ver.29, 4th Edition. Varanasi: Chaukhambha Orientalia, 2003; 12.
 36. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sharir Sthana, Chapter 08, Verse 09, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001. 934.
 37. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sharir Sthana, Chapter 08, Ver. 07, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001. 933.
 38. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 02, Verse 49, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 18.
 39. Dr. Brahmanand Tripathi, Editor: Ashtanghrudayam of Shrimad Vagbhata, Edited with 'Nirmala' Hindi commentary, Sharir Sthana, Chapter 01, Verse 29, Reprint. Dehli: Chaukhmba Sanskrit Pratishthan, 2007; 343.
 40. Dr. Brahmanand Tripathi, Editor: Ashtanghrudayam of Shrimad Vagbhata, Edited with 'Nirmala' Hindi commentary, Sharir Sthana, Chapter 01, Verse 34, Reprint. Dehli: Chaukhmba Sanskrit Pratishthan, 2007; 344.
 41. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sharir Sthana, Chapter 08, Ver. 11, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001; 936.
 42. Shri Mishra B, Editor: Bhavaprakasha of Shri Bhavamishra, Edited with 'Vidyotini' Hindi commentary, Purvakhand, Chap. 03, Ver.41, 7th Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2000.
 43. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sutra Sthana, Chapter 12, Ver. 08, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001; 254-255.
 44. Dr. Brahmanand Tripathi, Editor: Ashtanghrudayam of Shrimad Vagbhata, Edited with 'Nirmala' Hindi

- commentary, Sutra Sthana, Chapter 12, Verse 09, Reprint. Dehli: Chaukhamba Sanskrit Pratishthan, 2007; 172.
45. Dr. Athwale AD, Editor: Ashtang Sangraha of Shrimad Vriddha Vagbhata, Edited with 'Indu' Com., Sutra Sthana, Chapter 20, Ver. 02, 1st Edition. Pune: Shrimad Atreya Prakashanam, 1980; 146-147.
 46. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 02, Verse 06-30, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 18.
 47. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sharir Sthana, Chapter 08, Ver. 04, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001; 930.
 48. Srikantha Murthy KR, Editor: Ashtanga Samgraha of Vagbhata, Sharir Sthana, Vol.2, Chapter1, Ver. 12, 4th Edition. Varanasi: Chaukhambha Orientalia, 2003; 05.
 49. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 02, Ver.30, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 14.
 50. Shri Mishra B, Editor: Bhavaprakasha of Shri Bhavamishra, Edited with 'Vidyotini' Hindi commentary, Purvakhand, Chap. 03, Ver.02, 7th Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2000.
 51. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sharir Sthana, Chapter 03, Verse 03, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 20.
 52. Shri Shukla G, Editor: Bhel Samhita of Maharshi Bhela, Sharir Sthana, Chapter 08, Verse 02, 1st Edition. Varanasi: Chaukhamba Vidyabhavan, 1959.
 53. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sharir Sthana, Chapter 03, Ver. 03, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001. 859.
 54. Dr. Brahmanand Tripathi, Editor: Ashtanghrudayam of Shrimad Vagbhata, Edited with 'Nirmala' Hindi commentary, Sutra Sthana, Chap. 05, Verse 37-40, Reprint. Dehli: Chaukhamba Sanskrit Pratishthan, 2007; 73.
 55. Wells Read NW, Laugharne JD, Ahluwalia; NSBr J Nutr. Alterations in mood after changing to a low-fat diet. NSBr J Nutr, 1998; 79(1): 23-30. <https://www.ncbi.nlm.nih.gov/pubmed/9505799>. cited on, 18 sept 2017.
 56. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sutra Sthana, Chapter 27, Ver.30, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001; 505.
 57. Kaviraja Ambikadutta Shastri, Editor: Susrut Samhita of Maharshi-Sushruta, Edited with 'Ayurveda Tatva-Sandipika', Sutra Sthana, Chapter 45, Verse 112, Second Edition. Varanasi: Chaukhamba Sanskrit Sansthan, 2010; 178.
 58. <http://www.thestar.com.my/lifestyle/viewpoints/womens-world/2012/06/10/hormones-help-in-sex/#wle3FesZi6W0UQyg.99>.
 59. Dutta DC. Textbook of Obstetrics. Chapter 02, Fundamentals of Reproduction, New Central Book Agency (P) Ltd, Kolkata (India), 7th Edition: reprinted, 2013; 21-21.
 60. Dr. Tripathi B, Editor: Charak Samhita of Agnivesha, Edited with 'Charak-Chandrika' com., Sutra Sthana, Chapter 12, Ver.07, Reprint. Varanasi: Chaukhamba Surbharti Prakashan, 2001; 255.