



Review Article

A CRITICAL REVIEW OF APANAVATA WITH SPECIAL REFERENCE TO MENSTRUAL
PHYSIOLOGYMohini Singh^{1*}, Ravindra Singh Yadav³, Smriti Pandey²¹Assistant Professor, Department of Kriya Sharir, SAS Ayurvedic Medical College & Hospital, Harahua, Varanasi.²Assistant Professor, ³Professor & H.O.D, P.G. Department of Kriya Sharir, State Ayurvedic College & Hospital, Lucknow, U.P. India.

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ABSTRACT

Dosha, Dhātu, and Mala constitute the human body. *Doshas* are an essential component of our body's health, illness, etc. Only by maintaining these *Doshas* in balance can the human body be kept in a healthy state, and their imbalance results in disease. There are three *Doshas: Vata, Pitta* and *Kapha*. Due to its ability to control the actions of other *Doshas* as well, *Vata* is regarded as the most important among them. The body's *Nishkramana* of *Mutra* (urine), *Purisha* (faeces), *Shukra* (semen), *Artava* (menstrual fluid and ovulation) and *Garbha* (foetus) are all activities of the *Apanavata* subdivision of *Vata*. Nearly every *Acharya* in Ayurveda has quoted about *Apanavata* and its activities, but because its mechanism of action is not elucidated, we only possess an incomplete comprehension of it. With the aid of current theories, the present study has been done to examine the *Apanavata* and fully comprehend its role (physiological action). Ovulation and menstruation are associated with *Artava nishkraman*, but parturition or childbirth is associated with *Garbha nishkraman*. The main objective of this work is to take into consideration *Artava Nishkraman* in female reproductive physiology.

INTRODUCTION

Ayurveda is believed to be the oldest medical science of the human civilization. More than a medical system, Ayurveda is a way of life. The main aim of Ayurveda is prolongation of healthy life and prevention of diseases. The human body is composed of *Dosha, Dhātu* and *Mala*.^[3] The concept of *Dosha, Dhātu* and *mala* theory is the basic physiology of Ayurveda. Among them *Doshas* are the controlling factors of the body. *Dhātu* provides structure and nutrition for the body, and *Mala* purified the human body. Among above factors *Dosha* are utmost important because they are governing agents in the body. Complete physiology of our body is maintained by *Tridosha*, these presents all over the body still they are attributed with specific sites. *Tridosha* are to be considered as the primary and essential constitutional factors of the human organism.

These fundamental factors maintain the integrity of the human body by creating, assimilating and diffusing strength in the same way as *Soma, Surya* and *Anil* maintain normal states. They cause proper functioning of the body. On their abnormal status they surely afflict the body by causing various kinds of disorders.

Out of the three *Doshas vata* is considered supreme as it initiates and control the function of other two. *Pitta* and *Kapha* are capable of perform the function only association with *Vata*. It is responsible for all types of movement. *Vatadosha* is the controller and impellor of all mental functions and sensory activities also. Thus *Vata* is the supreme factor among three *Doshas*.

Vatadosha has been divided in five subtypes depending on the location and functioning in the body. They are *Prana, Udan, Saman, Vyan* and *Apana* ^[4]. As time bound study so only *Apanavata* has taken under consideration for this study. *Apanavata* is a subdivision of *Vata*. According to *Acharya Charak*, the seats of *Apanavata* are *Vrishana* (testicles), *Basti* (urinary bladder), *Medhra* (phallus), *Nabhi* (umbilicus), *Uru* (thighs), *Vankshana* (inguinal region), and *Guda*

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(anus).^[5] The important role of *Apanavata* is the expulsion of *Samiran* (flatus), *Shakrit* (faeces), *Mutra* (urine), *Shukra* (semen), *Garbha* (foetus), and *Artava* (menstrual blood and ovum).^[6] *Apana* is responsible for enervating all of the organs and systems concerned with these functions. *Apana*, an aspect of *Vata*, expresses the following qualities via its various functions or movements (contraction, peristalsis), which are somewhat sporadic and move in a downward direction.

The female reproductive system includes the ovaries, fallopian tubes, uterus, vagina, vulva, mammary glands, and breasts. These organs are involved in the production and transportation of gametes and the production of sex hormones. The nerve system and the hormonal system control the way the body performs its many activities. These two systems work together to regulate the functioning of the female reproductive system. Ovulation is the term used to describe the release of an egg from an ovary throughout the menstrual cycle. Ovulation is a phase of the menstrual cycle. The regular, natural alteration in the female reproductive system that allows for pregnancy is called the menstrual cycle. The major authors of this work of literature, *Artava Nishkraman*, took into account the physiology of female reproduction, which can be thought of as ovulation and menstruation.

The hypothalamus-pituitary-ovarian (HPO)^[7] axis acts as a major part of the female reproductive system. The hypothalamus secretes GnRH, which is secreted by the hypothalamus and activates the anterior pituitary gland. By the action of the GnRH ant. FSH and LH are two hormones secreted by the pituitary gland. The bloodstream carries FSH and LH to the ovaries. Here, oestrogen and progesterone are secreted by the ovaries as a result of FSH and LH.

Many nerves supply the uterus, eggs, ovaries, and vagina. The inferior hypogastric plexus is the source of the uterine nerves. The plexus of nerves leading to the cervix contains small paracervical ganglia, one of which is occasionally larger and is known as the cervical ganglion. The fallopian tube in the second lumbar spinal segment receives sympathetic input from the 10th thoracic spinal segment.

Parasympathetic fibres are from the vagus nerve for the lateral half of the tube and the pelvic splanchnic nerves for the medial half. In the ovaries, innervation is derived from the ovarian plexus, which consists of postganglionic, sympathetic, parasympathetic, and autonomic afferent fibres. In the vagina, innervation is derived from the vaginal plexus and the pelvic splanchnic nerve. It is also supplied by the pudendal nerve.

It is clear from the above description that the main role in female reproductive physiology is played by the neuroendocrine system. In Ayurveda, *Apanavata karma* appears to be very similar to these hormones and nerves. The functions of hormones such as oestrogen, progesterone, prostaglandins, oxytocin, relaxin, and renin^[8] and the nervous system containing catecholamines of the adrenergic or adrenergic system resemble the functions of *Apanavata*.

MATERIAL AND METHOD

- To find references on *Vatadosha*, we studied *Samhita* like *Charaka Samhita*, *Sushrut Samhita*, etc. for this study.
- Related modern text books are also referred to understand some concepts like ovulation, menstruation and neuroendocrine system etc.

***Apanavata's* roles in relation to *Artava Dharana* and *Nishkramana* are as follows**

Menstruation is a cyclical process in which the *Vatadosha* affects the regular passage of blood and mucous tissue from the inner lining of the uterus to the vagina. *Dhamani* refers to the way *Vata dosha* induces the menstrual phase. *Dhamani* is the name for an artery. Therefore, the fact that menstrual bleeding during menstruation is due to spasm in the direct stem of the arteriole indicates that *Vatadosha* works through *Dhamani*. This type of *Vatadosha* is called *Apanavata* because the pelvic region belongs to the *Apanavata* region.

Modern physiology also explains the role of the nervous system in menstruation through its action on the uterine vessels. Although it is established in modern science that the withdrawal of hormones leads to the breakdown of the endometrium, which results in menstruation, another important feature of menstruation is the contraction and constriction of the spiral arteries. Ischemia causes necrosis and breakdown of the surface zone of the endometrium.^[9] The cause of the spasm of these spiral arteries at the end of the secretory phase is not clear according to modern physiologists. A few facts establishing the relationship of nervous control and uterine blood vessels are worth considering. The female genital organs receive both sympathetic and parasympathetic nerve supplies. The sympathetic system consists of the presacral nerve and its branches, while the parasympathetic system consists of sacral fibers from S2, S3, and S4 that supply all pelvic organs including the uterus. The dual nerve supply of the viscera, i.e. sympathetic and parasympathetic efferents, determines the state of activity of a particular organ at a particular time. The smooth muscles of the vessels are supplied with sympathetic fibers, the stimulation of which causes vasoconstriction of the uterine vessels. The effect of sympathetic stimulation on the uterus is variable and depends on the secretion of estrogen and

progesterone. Additionally, sympathetic nerve overactivity and an imbalance in the autonomic nervous system as a cause of dysmenorrhea supports the role of the nervous system in menstruation.^[10]

RESULT AND DISCUSSION

Apanavata is more significant among other types of *Vata* as it shares the common prime location important *Pakvashaya* along with *Basti* etc., other locations with the *Vatadosha*. The excretory function of *Apanavata* is highlighted more than its *Dharana* function. The urge of excretion (*Vega*) of *Mutra*, *Purisha* and *Shukra* and its implementation was given great importance by ancient sages so as to avoid diseases occurring due to their holding (*Apanavata* vitiation). Although *Archarya* has not explained the mechanism in detail, yet the term *Vega* hints towards the excretory reflexes, i.e., micturition reflex, defecation reflex, ejaculatory reflex etc. The function of *Mutraddharana* is executed by *Rooksha* and *Sheetaguna* of *Vatadosha*. *Apanavata's artava nishkramana* function leads to confusion as to whether it means the expulsion of an egg (ovulation) or the expulsion of menstrual blood (menstruation). This is because of the use of the word '*Artava*' in relation to menstruation and ovulation. Since a woman's healthy reproductive physiology is fundamentally characterized by her regular monthly menstruation, the function of *Apanavata artava nishkramana* appears to be more relevant with regard to menstruation. This *Vatadosha* is none other than *Apanavata* because this region belongs to the region of *Apanavata*. The female genital organs receive both sympathetic and parasympathetic nerve supplies. The smooth muscles of the vessels are supplied with sympathetic fibers, the stimulation of which causes vasoconstriction of the uterine vessels. The effect of sympathetic stimulation on the uterus is variable and depends on the secretion of estrogen and progesterone. In addition, irregular uterine activity in dysmenorrhea due to increased sympathetic nerve stimulation and imbalances in the autonomic nervous system imply a role for the nervous system in menstruation. The mode of action of the *Apanavata* function in the menstrual cycle can be evaluated. For example, *Chalaguna* helps with *Vikshepana* of the egg from the ovary through the fallopian tube.

Spontaneous cessation of menstrual bleeding, i.e. *Shoshan* of *Artava* at the end of the bleeding phase, is achieved through its *Rooksha* and *Kharaguna*. The balance in these *Gunas* maintains the reproductive physiology of the woman, while the contradiction in these *Gunas* causes the abnormal function of the *Apanavata* (*Apanavaigunya*).

CONCLUSION

Apanavata is more significant among other types of *Vata* as it shares their common prime location i.e., *Pakvashaya* along with *Basti* etc other locations of the *Vatadosha*. The functions of *Apanavata* include *Mutraddharana* and *Nishkramana* (micturition reflex), *Shakritadharana* and *Nishkramana* (defecation reflex), *Shukradharana* and *Nishkramana* (ejaculatory reflex), *Artavadharana* and *Nishkramana* (menstruation), *Garbhadharana* and *Nishkramana* (parturition). The contemporary science explains this phenomenon by various nerve tracks which can be interpreted as the functions of *Apanavata*.

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*Address for correspondence

Dr. Mohini Singh

Assistant Professor,
Department of Kriya Sharir, SAS
Ayurvedic Medical College &
Hospital, Harahua, Varanasi.
Email:

mohiniverma8445@gmail.com

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