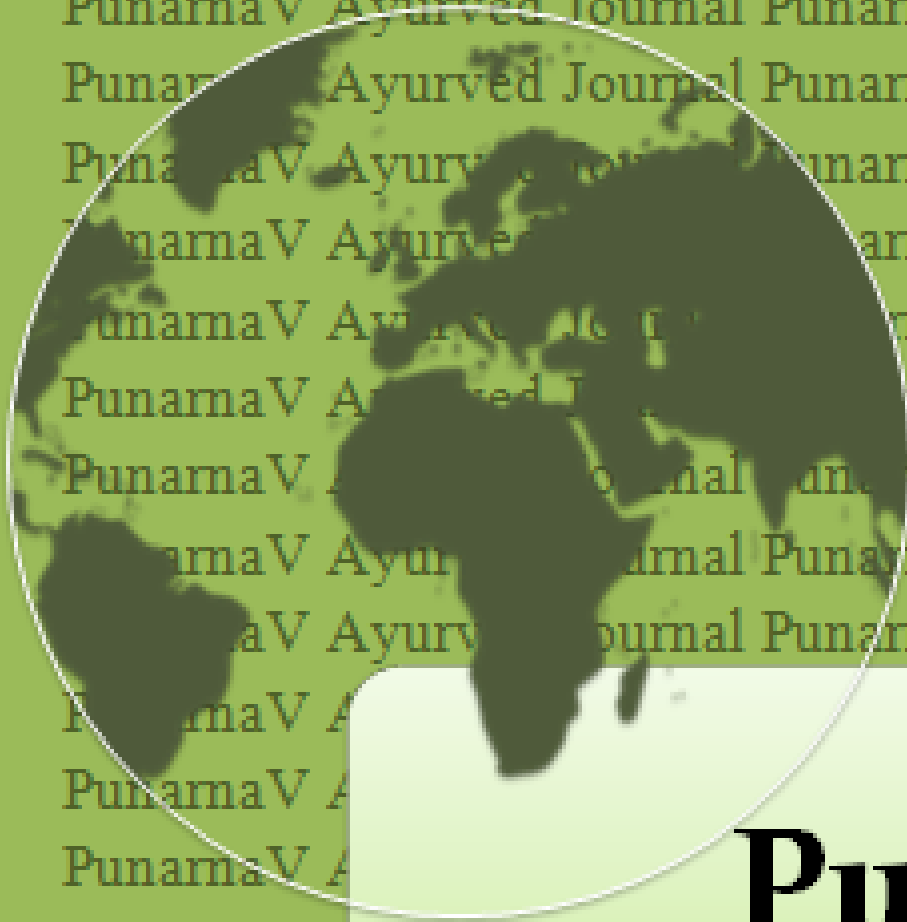


**MONTH: SEP: OCT -2015**

**VOLUME: 3, ISSUE: 3**

**ISSN: 2348-1846**



# Punarna V

**TITLE**

**UNDERSTANDING CONCEPTS OF SHADBHAVAS- A NEED OF AN HOUR**

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**AN INTERNATIONAL PEER REVIEWED AYURVED JOURNAL  
ON LINE BI-MONTHLY AYURVED JOURNAL**

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**UNDERSTANDING CONCEPTS OF SHADBHAVAS- A NEED OF AN HOUR****GEETHA KUMAR, ANITA PATEL****<sup>1</sup> ASSISTANT PROFESSOR GRADE I, <sup>2</sup> ASSISTANT PROFESSOR GRADE I,  
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SARASWAHY AYURVEDA COLLEGE & HOSPITAL, NAZARATHPET,  
CHENNAI, TAMILNADU, INDIA****ABSTRACT:**

*Abstract: Despite the advancements in diagnostic techniques and therapeutic interventions, medical science has failed to keep the incidence of congenital malformations under control. Ayurveda, the ancient Indian medical system has given due emphasis on this and postulated various measures to minimize the risks. According to Ayurvedic principles, proper preparation of the parents is an essential prerequisite for a healthy progeny. Pre-conception care is a set of interventions that identifies biomedical behavioral and social risks to the health of the mother and the baby. It includes both-prevention and management, emphasizing health issues that require action before conception, very early in pregnancy, for maximal impact. For meeting the objective of healthy progeny, Ayurveda scholars felt the importance of six procreative factors (Shadgarbhkara bhavas) such as Matrija, Pitrija, Aatmaja, Rasaja, Satmyaja, and Sattvaja. The present literary / conceptual study, thus focuses mainly on interpreting these observations, on the basis of modern scientific knowledge.*

**KEY WORDS:** Atmaja , Matrija, Pitrija ,Rasaja,, Satmyaja, Sawaja -Shad bhavas

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**INTRODUCTION**

Ayurveda is an ancient and universal system of health and healing that can be used beneficially in any culture, in any era, by anyone. Mother Nature has provided the bestow of reproduction to all living beings, enabling them to preserve their

species. Human being, the most evolved creature is fully aware of the better progeny. This fact is not true for today only. As references available in our ancient texts clearly indicate towards its importance. In ancient period medical study was not limited to only its disease and treatment aspect. Allied branches were also given equal importance. It was the matter of curiosity for them to know about the mystery of reproduction, ultimately motivating them to explore the related secrets. Result of their efforts was presented well in ancient Ayurvedic texts. We could get sufficient references regarding the fetal development. Despite the advancements in diagnostic techniques and therapeutic interventions, medical science has failed to keep the incidence of congenital malformations under control. Ayurveda, the ancient Indian medical system has given due emphasis on this and postulated various measures to minimize the risks. These measures start well before conception. According to Ayurvedic principles, proper preparation of the parents is an essential prerequisite for a healthy progeny. Pre-conception care is a set of interventions that identifies biomedical behavioral and social risks to the health of the mother and the baby. It includes both-prevention and management, emphasizing health issues that require action before conception, very early in pregnancy, for maximal impact.

For meeting the objective of healthy progeny, Ayurveda scholars felt the importance of six procreative factors (*Shadgarbhkarabhavas*) such as *Matrija*, *Pitrija*, *Aatmaja*, *Rasaja*, *Satmyaja*, and *Sattvaja*<sup>1</sup>. Neither mother nor father, nor the congenial atmosphere or different varieties of food, or the soul, or the mind transmigrated from other world can be sole causative factor for the formation of foetus<sup>2</sup>. The conglomeration of these procreative factors is must for healthy progeny. The physical, mental, social, and spiritual well-being of the person, proper nutrition of the mother during pregnancy, and practice of a wholesome regimen, play a prime role in achieving a healthy offspring, thus structuring a healthy family, society, and nation. Negligence toward any of these factors becomes a cause for unhealthy and defective child birth & congenital malformations.

## MATERIALS AND METHODS

Classical references on ayurvedic literature & modern medicine on subject of Embryology & Genetics were referred from Library of Sri Jayendra Saraswathy Ayurveda college, Chennai and internet related websites. This is purely literary research work and references collected were critically analyzed and presented.

**Role of heredity in embryology:** Keeping this principle in mind Charak has said that there are six factors which are collectively

responsible for proper development of an embryo which also include hereditary factors. They are known as *shadbhava samudaya*.

1. *Mataruja*- Maternal factors
2. *Pitruja* Paternal factors
3. *Atmaja – Atma* (soul)
4. *Satmyaja* – factors for which growing embryo has tolerance & acceptability
5. *Rasaja* -Nutritional factors
6. *Satwaja* - Psychic factors

All the six factors act collectively while the embryo is growing. In absence of even single factor embryo will not grow properly. Ayurveda also believes that through growth process of every organ is initiated at one and the same time; few organs develop early whereas few develop afterwards. This collective initiation of growth process has been accepted by all ayurvedic embryologists under the heading of '*yugpat vikas krama*'. This theory was postulated by Dhanvantari<sup>3</sup>.

Therefore following body parts or organs respectively develop from respective *bhavas*<sup>4</sup>.

***Matruja bhavas***: Skin, blood, plasma, muscle tissue, fat, umbilicus, heart, pancreas, gall bladder liver, spleen kidney, urinary bladder, stomach, duodenum, small intestine, omentum, rectum, anal canal and anus.

***Pitruja bhava***: Hair, secondary sexual characters like beard, axillaries and groin

hair and teeth blood vessels, bony tissues, nails, ligament, tendon, semen, and sperm.

***Atmaja bhava***: It awards independent life span to every individual that is short life span, average life span, long life span, control on actions of sensory organs, vital energy, facial look, body built, voice, complexion, psycho-metaphysical principles such as forbearance, sense of happiness, grief, jealousy, good or composed psychic built intelligence, Inspiration, pain, desire, ego and memory.

***Satmyja bhava***: An embryo cannot grow properly if it is not provided acceptable or agreeable factor through maternal diet. The *satmyaja* factor responsible for awarding health, inclination to work, non greedy attitude, undemanding and unbecoming behavior, perception capacity of organs, speech articulation, valor, and glow, ideal semen for reproduction continued sense of happiness and general awareness in sense.

***Rasaja bhava***: In absence of nutritional factors mother and fetus both cannot survive and thus no proper fetal growth takes place. Therefore, mother must intake all antenatal nutritive essentials like fruits, vitamins or minerals etc...the items which grow properly by *rasaja* factors are growth & decay of body, vitality, body built, survival and viable factors, growth factors for proper development of body parts and organs, metabolism, strength, spirit and also rejuvenating and immune factors.

**Satvaja bhava:** *Mana* or *satva* arrives from previous body ( *purva janma*) by *punarjanma*(rebirth) .this is why many a times one recalls or recaps the life time events of *purva janma*. Such persons who remember previous life events are known as *jatismar*.

The properties which are awarded by *satva* factors are love, affection, good conduct, sanctity in life belief on god, prowess, spirit, jealousy, maintenance of past memory, attachment, sacrifice, sense, anger, chivalrous character, fear, tiredness, kind heartedness, activeness, lethargy sensuous temperament.

Status of *satva* or *mana* varies from person to person. few of them are *RAJAS*, few *TAMAS*, and few *SATVIK*.

#### **Contribution of Shadbhavas:**

If mother and father are the sole responsible or capable elements of producing an embryo, all those couple desirous of having children of particular sex according to their wish. No couple will remain childless or with a progeny of unwanted sex<sup>5</sup>.The embryo is born from

the mother and the father. Placenta formation is not possible without mother, in fact male & female gametes , female reproductive organs are the essential factors of conception<sup>6</sup>.

If only *atma* is accepted as creator of another *atma* it could have preferred o transmit its very qualities to the species of its choice. But it is not seen, thus only *atma* is not capable of producing<sup>7</sup>.

Embryo is not derived only from congenial, wholesome or suitable diet. If It was so, then only those couples using suitable diet possessing high quality of *rasa* would have had progeny<sup>8</sup>.

The *satva* does not descend from outer world, if It was so, all the happenings of previous life would not have remained unheard, unseen, unknown. Bu one does not remember anything of previous life<sup>9</sup>.

The mother, the father, and *atma* etc factors are not totally independent for all their functioning. Some of the functions are performed independently, some depending upon deeds, at some hey are much potent and at others not so.

## **DISCUSSION**

#### **Probable correlation of shadbhavas :**

**Matrija- Pitrija bhavas :** One of the most important concepts concerning heredity has been thoroughly presented in ayurvedic literature. *Kula* or *Gotra* of parents, age at the time of conception, health of the reproductive organs of the

parents, time of conception, *bija* of mother & father, maternal diet during pregnancy, drugs-medicines taken by a woman during her pregnancy, and any disease in the mother during her pregnancy, can affect the health and normalcy of a fetus. Genetic imprinting and inheritance of traits for



humans are based upon Mendel's model of inheritance. Mendel deduced that inheritance depends upon discrete units of inheritance, called factors or genes. Autosomal traits are associated with a single gene on an autosome (non-sex chromosome) they are called "dominant" because a single copy—inherited from either parent—is enough to cause this trait to appear. Autosomal recessive traits is one pattern of inheritance for a trait, disease, or disorder to be passed on through families.

X-linked genes are found on the sex X chromosome. X-linked genes just like autosomal genes have both dominant and recessive types. Recessive X-linked disorders are rarely seen in females and usually only affect males, while Y-linked inheritance occurs when a gene, trait, or disorder is transferred through the Y chromosome. Since Y chromosomes can only be found in males, Y linked traits are only passed on from father to son. Certain genes are expressed either from the maternal or the paternal genome as a result of genomic imprinting, a process that confers functional differences on parental genomes during mammalian development<sup>10,11</sup>.

Epigenetic inheritance is an unconventional finding. It goes against the idea that inheritance happens only through the DNA code that passes from parent to offspring. It means that a parent's

experiences, in the form of epigenetic tags, can be passed down to future generations. The genome changes slowly, through the processes of random mutation and natural selection. It takes many generations for a genetic trait to become common in a population. The epigenome, on the other hand, can change rapidly in response to signals from the environment. And epigenetic changes can happen in many individuals at once. Through epigenetic inheritance, some of the experiences of the parents may pass to future generations. At the same time, the epigenome remains flexible as environmental conditions continue to change. Epigenetic inheritance may allow an organism to continually adjust its gene expression to fit its environment - without changing its DNA code<sup>12</sup>.

Besides adequate availability of nutrition in maternal blood and its transfer across placenta are essential for normal growth of the fetus malnutrition in the mother affects fetal growth and can possibly cause fetal malformation<sup>13</sup>.

**Aatmaja bhava** : Why do in spite of same family, birth time, nutrition; people differs in their lifespan ,psycho metaphysical aspects even in twin. Why do same initial pathological features produce different diseases in different people; why do they manifests quickly in some, whereas in others there is a long latent period . Such unexplained or idiopathic factors are due

to the *Atmaja bhava*. The effect of what is done during the previous life is known as *daiva*. The effect of what is done during the present life is known as *purushakara*.

All living beings possess an inherent drive to evolve, to become the highest possible expression of life and to fully realize themselves. Personal development is the willful co-operation with this natural evolutionary process. During the lower stages of human development, material ambitions and an egotistical nature are justified because *atma* ( deeds of previous life)drive us on wards and upwards.

***Sattvaja bhavas*** - Human being possess instinct and intelligence. All these things may not happen without the presence of *Manasa* (psyche). *Dauhrida Avastha* of *Garbhini* (special desires of a pregnant woman) is a very evident manifestation of the *Sattvaja Bhava*. Acharyas have clearly specified that the suppression of desires of the *Dauhridi* (*pregnant woman*) may influence the psychology of both the mother and fetus<sup>14</sup>.

Prenatal and perinatal psychology is an interdisciplinary study of the foundations of health in body, mind, emotions and in enduring response patterns to life. It explores the psychological and psycho physiological effects and implications of the earliest experiences of the individual, before birth ("prenatal"), as well as during

and immediately after childbirth ("perinatal") on the health and learning ability of the individual and on their relationships. As a broad field it has developed a variety of curative and preventive interventions for the unborn, at childbirth, for the newborn, infants and adults who are adversely affected by early prenatal and perinatal dysfunction and trauma.

The types of emotions that are developed in the womb vary. Babies in the womb are believed to be able to recognize love, happiness, sadness and stress. Talking or playing music is believed to comfort a baby in the womb, and help the baby understand the emotion of love. Hearing voices outside the womb will also help the baby determine the difference between happiness and sadness based on pitch and sound level of voices. In addition, the emotion or feeling of stress is evident in the baby if the mother is also under stress. A rise in the mother's blood pressure will trigger a response in the baby's blood pressure as well.

***Satmyaja bhavas*** Influence – Embryonic, Fetal, Post-natal development

***Satymaja*** – Tolerance, adaptability and acceptability

The movement of the tubal/uterine fluid, the chemical diversity, and their interaction produce a unique environment able to support

embryo development and modulate gene expression. Successful implantation is an absolute requirement for the reproduction. The process by which a foreign Implantation occurs during the putative implantation window, in which the maternal endometrium is ready to accept the blastocyst, which on the other hand, also plays a specific role. From the viewpoint of the future embryo, the goal of implantation is to invade maternal tissue and gain access to nutrients essential for its survival and development. From the perspective of the future embryo, preparation consists of the expression of numerous receptors and adhesion molecules on the outside of the preimplantation blastocyst and the production of cytokines and other mediators. The process of implantation encompasses several distinct stages: apposition, adhesion, penetration, and trophoblast invasion. These steps can only take place during the window of implantation.

Although the fetal genome plays an important role in growth potential in utero, increasing evidence suggests that the intrauterine environment is a major determinant of fetal growth. For example, embryo-transfer studies show that it is the recipient mother rather than the donor mother that more strongly influences fetal growth. There is also evidence that the intrauterine environment of the individual

fetus may be of greater importance in the etiology of chronic diseases in adults than the genetics of the fetus.

**Rasaja** – Among intrauterine environmental factors, nutrition plays the most critical role in influencing placental and fetal growth. Fetal growth is also influenced by Hormones secreted from placenta, and genetic factors. At the beginning embryo gets nutrition from trophoblast, after implantation from endometrium. However as embryo grows this simple nutritive system becomes insufficient and placenta develops to take up the function of nutrition, respiration and excretion.

Nutrition is the major intrauterine environmental factor that alters expression of the fetal genome and may have lifelong consequences. Namely, alterations in fetal nutrition and endocrine status may result in developmental adaptations that permanently change the structure, physiology, and metabolism of the offspring, thereby predisposing individuals to metabolic, endocrine, and cardiovascular diseases in adult life.

For instance, in twin pregnancies, a baby with fetal growth retardation is more likely to develop non-insulin dependent (type-II) diabetes mellitus than a sibling with normal fetal growth.

Intrauterine growth restriction (IUGR) refers to poor growth of a fetus while in



the mother's womb during pregnancy. The causes can be many, but most often involve poor maternal nutrition or lack of adequate oxygen supply to the fetus. IUGR affects 3-10% of pregnancies. 20% of stillborn infants have IUGR. Perinatal mortality rates are 4-8 times higher for infants with IUGR, and morbidity is present in 50% of surviving infants<sup>17</sup>.

### PREVENTIVE & SUPPORTIVE MEASURES

It Reduces genetic disorders , mortality, and promotive measures for desirable qualities, through routine prenatal screening.

#### BEFORE PREGNANCY

A.H sa 1/8) age for conception has described as 16 years for female and 25 for male.<sup>18</sup> Since both the partners are full of velour and vigor at this stage , the born child also possesses these qualities. The marriages should be performed in auspicious methods. Similarly very young and old woman should not be impregnated. During impregnation diet, mode of life used by couple, psychological status of couple , specific season, odd or even days of conception, position during coitus , influences the process of embryogenesis.

Advice should be given to couples, to complete their intended family size preferably before the age of 35 years, for women. The incidence of chromosomal

disorders and spontaneous abortion rises with maternal age after the age of 35 years. For example first pregnancy after age of 35 increases risk of breast carcinoma. Disorders due to new dominant mutations increase with advanced paternal age.

Information regarding the deleterious effects on the developing embryo of smoking, alcohol intake, unsupervised medication, exposure to X-rays, and certain mutagens at the workplace should be made available to women prior to pregnancy.

ii) When the couple is informed of the possibility that they are at an increased risk of having a genetically abnormal child, they can choose to plan the conceptions according to medical advice and can make use of the genetic services available. Primary prevention of genetic disorders depends largely on preconception information, screening, and counseling.

iii) The high rate of traditional same *gotra* marriages<sup>19</sup> which increase the frequency of autosomal recessive disorders, can be avoided by imparting this knowledge to people.

iv) Treatment of existing pathological conditions of parents, because major malformations are determined very early during embryonic development.

v) In Preconception period , man and woman should prepare the body by purificatory measures. The man properly

oleated with *ghrita* having observed celibacy for one month after taking *Sali* rice with milk and woman oleated with oil, taken food prepared with oil and *masha*, having observed chastity for one month should have coitus. Probably these measures promotes healthy progeny. Supplementing the woman's diet as advised in '*Ritumati paricharya*'<sup>20</sup> and '*Garbhini Paricharya*'<sup>21</sup>, with *madhura*, *sheeta*, *drava* in the first months after conception, strengthens female genital system and reduces the risk congenital malformations.

vi) Environment and psychology of a woman should be favorable and health promotive. She should avoid things suppression of natural urges, thoughts likely to promote anger and fear, and use of articles likely to produce diseases during pregnancy. She should avoid daily and excessive use of sweet, sour, salty, hot, Pungent, Astringent food items. the risk of miscarriage, congenital abnormality, and fetal growth retardation through avoidance of smoking and alcohol intake during pregnancy<sup>22</sup>.

2. Advice regarding nutrition: Throughout the reproductive years, and particularly preconception, there is strong evidence that an optimal diet reduces the frequency of unsuccessful pregnancy outcomes and severe congenital malformations.

## DURING PREGNANCY

i) Charaka says that the pregnant woman desirous of producing the healthy and good looking child should give up non congenial diet and mode of life and protect herself by doing good conduct and using congenial diet and mode of life. Importance also has given for fulfillment of longing of mother ( *douhrida*) as suppression of desires may influence psychology of mother and fetus.

ii) Specific dietetic regimen has prescribed for woman having normal development of fetus, so that she delivers the child possessing good health, energy or strength voice, compactness and much superior to other family members. Similarly physical strain, psychological stress, purifying procedures has described as *Garbhopghatkar bhavas*<sup>23</sup>. Several environmental agents (teratogens) can cause damage during the prenatal period. These include prescription and nonprescription drugs, illegal drugs, tobacco, alcohol, environmental pollutants, infectious disease agents such as the rubella virus and the toxoplasmosis bacterium, maternal malnutrition, maternal emotional stress, and Rh factor blood incompatibility between mother and child. During each anti natal care visit these regiment should be explained to the pregnant woman along with its benefits and hazards.

## CONCLUSION

For meeting the objective of a healthy progeny, *Ayurveda* scholars felt the importance of Six procreative factors (*Shadgarbhakarabhavas*) such as *Matrija* (maternal), *Pitrija* (paternal), *Atmaja* (Soul), *Rasaja* (Nutritional), *Satmyaja* (Wholesomeness), and *Sattvaja* (Psych / Mind). The conglomerance of these procreative factors is a must for healthy progeny. Healthy mother, father (good code of conduct), practice of a wholesome regimen, and a healthy mind (Psychological status of parents) play a prime role in achieving a healthy offspring, thus structuring a healthy family, society, and nation. Each procreative factor is assigned with a certain organogenesis / functional / psychological phenomenon, to develop in the forthcoming baby, during its intrauterine life. A lag on the part of any of these procreative factors will lead to physical, functional or psychological defects, which can be contributed by the respective factor.

Preconception counseling can play a vital role not only in achieving the goal of a healthy progeny, but also in preventing congenital and genetic disorders. *Garbhakara Bhavas* are not only the factors that bring progeny, but they are the carriers of the organogenesis and other traits to the fetus. The normal transmitted traits through any of the *Garbhakara Bhavas* can be modified by the preventive / curative measures, if they are not permanent / serious / major. Antenatal care, right from the preconception to full-term delivery will certainly play a key role in the prevention of congenital and genetic disorders and promotion of good health.

If an individual's genetic mutation is in the positive (*Satvik*) direction, positive thoughts always arise in his mind and if the environment is congenial and healthy, he will be strong, both physically and spiritually. However, if the genetic mutation is in the negative (*Tamasic*) mode, the individual will be physically weak and spiritually impoverished.

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