

AYURVEDIC PERSPECTIVE OF EPIGENETICS IN PRENATAL DEVELOPMENT: A CRITICAL REVIEW

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ABSTRACT:

It is the need of the hour to establish the role of *Ayurveda* in antenatal care, which is under national rural health programs. Human evolution throughout the conception to adulthood is conjoined association, shaped within cells, of nature [the deoxyribonucleic acid (DNA) we inherit] and nurture (the comprehensive nutritional, social, and physical environment). The augmenting field of epigenetic has perception that environment and individual lifestyle can directly interact with genome to influence epigenetic transformation. *Ayurveda* sighted the urge for the physical, mental, and spiritual anticipation of the mother to be for the momentous event of childbirth and emphasis has been given on care of mother during antenatal period. Developing living being seems to have a wide range of perceptivity to epigenetic modulation. Befitting drift in epigenetic modifications is essential for embryogenesis, early foetal development, and early postnatal growth. Thereupon, the inappropriate endowment of epigenetic changes during critical developmental periods as a result of changes in maternal diet and other environmental components may induce paediatric developmental diseases and even influence health in adulthood. *Garbha Samskara* as explained in classical texts of *Ayurveda* involves the combination of *Garbhadhan samskara* (preparation of to be mother and father prior 3 months of conception), *Pumsvana Samskara* and *Garbhini Paricharya* (planned program of observation, education, lifestyle modification, nutritional and medical management of pregnant lady). By adopting the custom of *Garbha Samskara*, antenatal care along with epigenetic programming can be done in order to have a healthy progeny. *Garbha Samskara* may be considered as *Ayurveda* antenatal care and a novel preventive measure in the context of adverse epigenetic changes.

Keywords: Antenatal care, Epigenetics, *Garbha samskara*, *Garbhini Paricharya* etc.

1. INTRODUCTION:

It is thought that germ cells and preimplantation embryos during development are most susceptible to endogenous and exogenous environmental factors because the epigenome in those cells is undergoing dramatic elimination and reconstruction. Exposure to environmental factors such as nutrition, climate, stress, pathogens, toxins, and even social behaviour during gametogenesis and early embryogenesis has been shown to influence disease susceptibility in the offspring. Early-life epigenetic modifications, which determine the expression of genetic information stored in the genome, are viewed as one of the general mechanisms linking prenatal exposure and phenotypic changes later in life. From atmospheric pollution, endocrine-disrupting chemicals to heavy metals, research increasingly suggests that environmental pollutions have already produced significant consequences on human health. Moreover, mounting evidence now links such pollution to relevant modification in the epigenome. [1]

Maternal and infant mortality reduction is an important issue under the current national rural health programs. However, at the international level, the focus has been emphasized on enhancing access to curative and emergency obstetric care only. These strategies, in India, have so far not yielded any distinguished results. There is a need to carve solutions in terms of antenatal care, which are women-centered, culturally acceptable, cost-effective, and easily accessible. *Ayurveda* has mentioned the effect of all these factors (diet, lifestyle) on conception, development of growing foetus, and health consequences in children. *Ayurveda* recognized the need for the physical, mental, and spiritual preparation of the mother and father to-be for the momentous event of childbirth. *Garbha Samskara* as explained in classical texts of *Ayurveda* involves the combination of *Garbhadhan samskara* (preparation of to be mother and father prior three months of conception) and *Garbhini Paricharya* (planned program of observation, education, lifestyle modification, nutritional and medical management of pregnant lady). The Sanskrit word “*Garbha*” means foetus in the womb and *Samskara* means “prepare, perfect, polish” something, through some actions or procedures. [2]

Human evolution throughout the conception to adulthood is conjoined association, shaped within cells, of nature (the DNA we inherit) and nurture (the comprehensive nutritional, social, and physical environment). Epigenetics refers to genetic factors that change an organism's appearance or biological functions without changing the actual DNA sequence. In other words, gene expression changes but the genes themselves do not. The augmenting field of epigenetic has perception that environment and individual lifestyle can directly interact with genome to influence epigenetic transformation. Interactions of pregnant woman (behaviours like smoking, eating, drinking, exercise, and exposure to natural and manufactured chemicals in air, water, and food) with environment can cause epigenetic modifications that affect working pattern of genes.

Thus, by adopting the custom of *Garbha Samskara*, epigenetic programming can be done in order to have a healthy progeny. *Ayurveda* classics were reviewed for *Garbhadhan Samskara* (before conception planning for good progeny), *Garbhini Paricharya*, *Garbhopghatkara-bhava*. A search for papers was undertaken with the following search terms: Epigenetics, epigenetic programming, epigenetic and human diseases, epigenetic and Nutrition.[3]

2. AIMS & OBJECTIVE:

- To study importance of *Ayurvedic* Prenatal care in achieving the healthy progeny.
- To study and see the relation between prenatal development and epigenetics.
- To suggest a protocol for healthy progeny.

3. MATERIAL AND METHODS:

- This is conceptual type of research. Various *Ayurvedic* classic texts and modern text have been used for this study as source materials. All sorts of references have been collected & compiled from various *Ayurvedic* classics texts like *Charaka Samhita*, *Sushruta Samhita*, *Vagbhata Samhita*, *Laghutrayee* and available commentaries on it.
- Apart from this various research article published till date are also searched from various websites are also been used for this. All relevant matter is compiled and analysed for the discussion and attempt has been made to draw some conclusions.

4. AYURVEDIC PERSPECTIVE OF PRENATAL DEVELOPMENT:

4.1 Preconception Factors: *Ayurveda* emphasizes on preconceptual care so as to achieve its goal of healthy progeny. For which instructions to *Ritumati* (menstruating woman) which is known as *Ritumati-charya* has been recommended. During menstrual period from the very first day, the woman, observing celibacy should abstain from day-sleep and many other things. The lifestyle and behaviour of mother in the phase of *Ritumati* acts a crucial role for the characters of upcoming foetus.[4] Diet and Lifestyle of parent's prior conception plays a vital role and has a direct influence on the qualities endowed by the embryo.[5][6]

4.2 Formation of Embryo & Soul: As sprout comes out by the aggregate of season, soil, water and seed, similarly conception takes place positively if these four factors [*Ritukala* (proliferative phase of menstrual cycle), *Garbhashaya* (uterus), *Aahar-rasa* (nutrition) and *Shukra-artava* (sperm & ovum)] are combined properly. Thus, born worthy sons are said to be handsome, having predominance of *Sattva* and long-life span, free (father) from three debts and thus prove benefactors to their father.[7] The engagement of soul in the formation of embryo has been mentioned in *Ayurveda*. *Sushruta* has revealed involvement of soul, *Ashta-prakriti* (eight primordial nature) and *Shodas-vikara* (sixteen products) in the creation of embryo.[8] While clearing up the cause for certain soul to enter in specific combination of ovum and sperm, it is affirmed that it depends on righteous and unrighteous acts performed by soul in its earlier birth. In a combination of *Agni* (ovum) and *soma* (sperm) the psyche which is though imperishable, immutable and impenetrable, under the impulse of prior deeds along with subtle body gets associated with *Sattva*, *Rajasa*, *Tamasa* and other Godly demonical or other impelled qualities, the soul reaches the uterus with *Vayu* to stay therein.[9] The analogous quotation in first chapter of *Sushruta Sharir-sthana* pronounces that in *Ayurvedic* scriptures, souls are not omnipresent but endless which transmigrate in animals, men and gods according to righteous and unrighteous work. These are inferable because of too subtlety, conscious and eternal manifesting in fusion of ovum and sperm.[10]

4.3 Sex Determination: The predominance of *Shukra* (semen) produces male child and that of *Aartava* (ovum) the female, while equality of both give rise to hermaphrodite.[11] Sexual contact on even days may result in conception of male child and female on odd days.[12] If conceived in these days three or four drops of one of the plants - *Lakshmana* (*Ipomoea sepiaria* Roxb), *Vatashruna* (*Ficus bengalensis*

Linn), *Sahadeva* (*Sida humilis* Wild) and *Vishvadeva* (*Grewia populifolia*) pounded with milk should be put into the right nostril (without spitting) of the woman desiring male child.[13]

4.4 Evolution & Body Parts: The elements facilitated in an individual with the assistance of *Panchamahabhuta* includes the traits those of *Akash* (sound, auditory organ, all orifices and distinctness); *Vayu* (touch, tactile organ, all activities (nervous system), actions in all body parts and lightness); *Tejas* (vision, visual organ, complexion, heat, brilliance, digestion, intolerance, sharpness and valor); *Aap* (taste, gustatory organ, all liquidity, immensity, coldness, unctuousness and semen) & similarly those of *Prithvi* (smell, olfactory organ, hardness and weightiness).[14]

4.5 Development of Embryo: Development of parts and subparts of embryo takes place by nature. The merits or defects arise therein should be known as those caused by the soul entering in the embryo.[15] When zygote is bifurcated by internal *Vayu* two souls, prompted by unrighteousness occupy them reaching uterus. They are known as twins.[16] The role of *Panchamahabhuta* in the formation of complexion of foetus and *Shad-bhava* (six factors influencing the growth of foetus) which are also known as *GarbhotPadak-bhava* (supporting for formation of *Garbha*) factors is elucidated in *Ayurveda*. *Tejas* element is the causative factor of complexion. When at the time of conception, if predominantly associated with *Aap* element, it makes the foetus fair complexioned; that in *Prithvi* element causes black one. If *Tejas* does not reach the visual organ, it makes the child blind; the same associated with blood makes red-eyed; that associated with *Pitta* and *Kapha* makes yellow-eyed and white-eyed respectively, if associated with *Vata* it causes deformity in eye.[17] The parts of the foetal body originating from father, mother, *Rasa* (nutrition), *Atma* (soul), *Sattva* (psyche) and *Satyama* (suitability) are described as *Shad-bhava*. The hard parts like bone, nail, teeth etc originate from **father**; the soft parts like heart, liver, spleen etc are of **maternal origin**; physical development, strength, complexion originate from *Rasa*; sensory and motor organs, knowledge, wisdom life-span, pleasure, pain etc originate from *Atma*; energy, health, strength, complexion and intelligence are *Satyamaja* in origin.[18] Structural arrangement of body parts, falling and reappearing of teeth and absence of hair on palm and soles these are due to nature.[19] The person attains the same act in rebirth by which he was impelled in previous life. He also acquires the same qualities which were frequently used in the previous life.[20]

4.6 Foetal Deformity: *Charaka* in view of foetal anomaly explains that, during fertilization in the seed (sperm or ovum), the part of the body which is damaged in its genetic source gets abnormality or else not.[21] Unrighteous acts performed by parents may result in foetus of shape like snake, scorpion and pumpkin etc. On the contrary *Kubja* (humped), *Kuni* (deformed hand), *Pangu* (lame), *Mooka* (dumb) and *Minmin* (muffled voice) neonates are formed either by vitiated *Vata* or ignoring craving of pregnant woman.[22] As in the rainy season wood, stone pieces and water current cause derangement in a tree situated in the river stream, *Doshas* (Bodily humour) cause abnormalities in foetus situated in the womb.[23]

5. CHILD DEVELOPMENT ACCORDING TO AYURVEDA:

5.1 Prenatal Management—*Garbhadhan Samskara*—*Before Conception Planning for Good Progeny:*

For achievement of conception, proper functioning *vayu* (*vata dosha*), healthy mental status, healthy and proper functioning female reproductive system, well-prepared uterus, healthy *Shukra dhatu* (sperm), and *Shonita* (ovum) are essential factors. In nature, to have a good crop, we need proper season, proper nutrition, fertile land, good quality seed, and proper nutrition; the same rule applies to humans as we are part of nature. Four factors are given utmost importance for conception.[24]

- **Ritu:** Proper age and time for conception
- **Kshetra:** Healthy mother's womb
- **Bija:** Healthy ovum and sperms
- **Ambu:** Balanced and quality nutrition

For attainment of all the above factors, the following procedures are to be adopted:

5.2 Purification of *Shukra* (sperm) and *Shonita* (ovum): *Ayurveda* recommends that for proper conception and to have offspring with optimum characteristics, the *shukra* and *shonita* should be deficient of any type of vitiated *dosha*. If the *shukra* (sperm) and *shonita* (ovum) are afflicted with *dosha*, it may lead to abnormal offspring, both physically and in behaviour. Therefore, various measures to purify *shukra* and *shonita* are described in the text. It includes *Snehan* (oleation), *swedana* (sudation) followed by *panchkarma* procedures.[25] **Male** should adopt celibacy of 1 month.[26]

5.3 *Putreshti Yajna* — This is nothing but preparing the couple mentally to conceive. *Ayurveda* states that the couple should prepare themselves before conception. *Putreshti yajna* is a kind of mental preparation of the parents. When prepared mentally, the couple will follow all the norms during the pregnancy to achieve

a better progeny. When an event is linked with auspicious or religious act, it has better effect on mind. Same is true with this particular event.[27] Normalcy of psychology or happiness of couple is most important for conception.[28]

5.4 Diet before conception — *Madhur varga* medicated milk with *Ghrta* consumption by male and oil and *Masha* by female before having sex.[29] *Sushruta* opines that whatsoever pattern of diet, etiquettes, and conduct are followed by the couple at the time of coitus, the born child will possess similar character.[30] Appropriate conception with all the elements in balance gives rise to a *Rupavanta* (handsome), *Satvavanta*— full of *Sattvik* quality (virtuous, possessed with analytical knowledge, mercy, satisfaction, clarity of mind, and senses) and *Chirayu* (long-lived) progeny.[31]

5.5 Garbhini Paricharya: *Ayurveda* advocates the concepts of *Garbhini Paricharya* for well-being of foetus and event-free delivery of a healthy neonate. The term *Garbhini Paricharya* is a made up of two separate words, i.e., *Garbhini* and *Paricharya*. *Garbhini* means a woman in which *Garbha* is present, “char” or “charya” refers to the “service” or “nursing,” and *Paricharya* means caring in all aspects. *Garbhini Paricharya* is an all-round care of pregnant women.[32] In other words, we can say that a planned program of observation, education, lifestyle modification, nutritional medical management of pregnant woman directed toward safe pregnancy and delivery of healthy progeny. In modern science, systemic supervision of pregnant lady, including the examination and advice, is called antenatal care.

6. DISCUSSION:

6.1 Management for *Garbhini* according to *Ayurveda*:

6.1.1 Dietary Advice: Dietary advices of *Garbhini* include *Samanya Ahara* and *Masanumasika pathya*. The *Samanya Ahara* (daily diet) should be *Hridya* (pleasing to heart), *Dravam* (liquid), *Madhuraprayam* (sweet), *Snigdham* (oily), *Deepaniyam* (appetizer), and *Samskritam* (processed as per the need).[33]

6.1.2 Masanumasika pathya (Month-wise Dietary Regimen for Pregnant Women): During intrauterine life, foetus draws its nutrition from mother through placenta. Adequate and specific nutrition is needed for appropriate development of embryo. The need of nutritional component varies according to development phases of foetus. In view of these specific change in nutritional requirements, the *Ayurveda* classical text has explained detailed month-wise dietetic regimen known as *masanumashika paricharya* (monthly regimen) for woman throughout 9 months of pregnancy.

6.1.3 Lifestyle Modifications: It includes *Pathya-apathya* do's and don'ts during pregnancy [*Aahar* (diet), *Vihara* (physical activities), and *Vichar* — (psychological and emotional activities) to be adopted and avoided during pregnancy].

6.1.4 Pathya (Congenial): Pregnant women should remain in high spirit, pious, decorated with ornaments, wear clean white garments, moonlight bath, soft bed, cool air, anabolic or gratifying edibles, embracing beloved, and other pleasing mode of life along with desired food.

6.1.5 Garbhopaghatakara Bhavas (Contraindications): *Garbhopaghatakara* bhavas are the factors including *ahara* (diet) and *vihara* (behaviour and conduct) which are harmful to the *garbha* (foetus). These may induce some congenital defects in the child and are not favourable for the birth of a healthy child, with all the good attributes. Use of contraindications during pregnancy leads to vitiation of *dosha* and the part which is afflicted in the mother, the same part is afflicted in the foetus.[34]

6.1.6 Epigenetics: The term epigenetics, derived from the Greek word “epigenesis,” means the influence of genetic processes on development.[35] Epigenetics is the study of potentially heritable alterations in gene expression (active vs inactive genes) without affecting underlying DNA sequence. Epigenetics ultimately affects how cells read the genes. Epigenetic change is a usual and indigenous happening but can also be affected by several factors, including age, the environment/lifestyle, and disease state of the individual. The word “program” demonstrates the notion that the environmental stimuli received during critical periods of early foetal development can generate permanent changes in body structure and function, ultimately affecting the homeostasis of specific organs in the adult life.[36]

The DNA specifies the structure of proteins, but it is the cell's circumstances that ultimately determine when, where, and how much of these proteins are produced. That conditional response may be a temporary adjustment, but sometimes cells change for life. These epigenetic changes may be reflected at various stages throughout a person's life and may be transmitted in later generations.

6.1.7 Developmental Plasticity: Developmental plasticity is the responsiveness of a growing body to external cues. It is derived from the capability of genes to coordinate various ranges of physiological or morphological states as reaction to environmental conditions during foetal development. Different cells and tissues attain various programs of gene expression amid the development of organisms. The successions of precisely gauged and systematized epigenetic changes are cardinal for the apt development of multicellular organisms like humans. [37,38]

Growth pattern during early human life has its effect on many diseases that appear in adulthood. Nutrition and environmental factors in early life play key roles in the pathogenesis and in the likelihood of specific human ailment. Epigenetic alteration imparts a potential interconnection between the behaviour in the course of critical stage in development, nutrition status, lifestyle, and changes in gene expression that may lead to disease phenotypes.

6.1.8 Evidences showing Influence of Maternal Diet during Pre-conceptual, Natal, and Antenatal Period on Epigenetic Changes from One Generation to the Next Generation: *Ayurveda* advocates the concepts of *Garbhini Paricharya* for well-being of foetus and event-free delivery of a healthy neonate. By following these prescribed dietetic regimens, the pregnant lady remains healthy and delivers a healthy child having good strength, complexion, and voice. Along with *Pathya* (Do's), some *Apathya* (Don'ts) are explained as *Garbhopaghathakara-bhavas* (*aahara* and *vihara* which are harmful to the growing foetus). These may induce some congenital diseases in the child and are not favourable for the birth of a healthy child, with all the good attributes. Different studies have shown the effect of Dutch famine on children born during the period of 1944 to 1945. There was rise in the rates of coronary heart disease and obesity after maternal exposure to famine during early pregnancy compared with those not exposed to famine.[39] Incidences of schizophrenia have been reported to be significantly higher in adults prenatally exposed to famine conditions.[40] Low maternal protein diet for one ovulatory cycle prior to mating in mouse has shown abnormal anxiety related behaviour and elevated systolic blood pressure in the offspring.[41] Supplementary folic acid use in human beings during periconceptional period has shown higher methylation of the Insulin-like growth factor 2 differentially methylated region.[42] Maternal overnutrition and undernutrition have shown altered hypothalamic DNA methylation affecting the overall metabolism in the adult.[43]

6.1.9 Effect of Lifestyle of Parents on Growing Foetus and Future Progeny: It is stated that whatever the diet, lifestyle, and the actions the mothers follow, the progeny becomes accordingly. For example, if the parents are taking *vata*-dominant diet and practicing *vata* increasing lifestyle, the progeny will result in character of *vata* dominance. Similar will be the result in case of other dosha.[44] Also, atheism of parents, inauspicious deeds of previous life, and vitiation of *Vatadi dosha* lead to abnormality in foetus (both at physical and mental level).[45] Epigenetic changes caused by environmental exposures can be transmitted down several generations. The lives of ancestors can directly affect health of an individual. Individuals can be more susceptible to disease because of his/her ancestors' exposure or behaviour. Grandchildren can be less healthy because of the choices made by forefathers or what they are involuntarily exposed to. Lifestyle of both the partners before conception and after conception has effect on growing embryo.

6.1.10 EFFECT OF DIET AND MODE OF LIFE DURING PREGNANCY:

The foetus is wholly dependent on mother; therefore, her diet and other activities may affect the growing foetus during pregnancy. By keeping this fact in mind, the woman desirous of having an ideal offspring, should discard harmful diet and activities. This awareness existed even in very early periods. Use of cow's flesh by pregnant woman may also cause congenital anomaly in the foetus. In *Brhadaranyako-pnishad*, there is description of dietetic regimen prescribed to both the partners, for better progeny. The detail of specific diet as well as its effects on child is given hereunder. *Charaka Samhita* has mentioned that the effect of harmful diet as well as activities of the mother, causes congenital anomalies which are as follows:[46]

- The woman, who sleeps in the open air or is addicted to night walking, gives birth to a congenitally insane offspring.
- A woman of quarrelling nature gives birth to an epileptic.
- A nymphomaniac woman gives birth to an ill formed or shameless or effeminate offspring.
- A hypochondriac woman gives birth to a coward, emaciated or short-lived offspring.
- A scheming woman (jealous inwardly but not showing it apparently) woman gives birth to anti-social, envious or effeminate offspring.
- A thievish woman, gives birth to a fierce, deceitful and envious offspring.
- An intolerant woman, gives birth to a fierce, deceitful and envious offspring.
- A woman, who sleeps so much, gives birth to sluggish, a dullard or a dyspeptic child.
- A woman, addicted to wine, gives birth to an offspring with polydipsia, having weak memory and possessing unbalanced mind.
- A woman, who eats 'iguanas' flesh habitually, gives birth to an offspring suffering from urinary gravel or calculi or having dribbling micturition.
- A woman, who is addicted to hogs' flesh, gives birth to an offspring suffering from blood shot eyes, sudden apnoea or coarse hairs.

- A woman, who is fond of the meats of fish, gives birth to a slow winking or unwinking offspring.
 - A woman, constantly given to eating sweets, given birth to an offspring subject to urinary anomalies or a mute or obese offspring.
 - A woman who is fond of sour things, gives birth to an offspring having bleeding diathesis or diseases of the skin and eyes.
 - A woman, who is fond of saltish preparations, gives birth to an offspring whose hair turn grey very early, has wrinkled face or bald-headed offspring.
 - A woman, who is addicted to pungent things, gives birth gives birth to a weakling or to one who is deficiency to semen (Sterile).
 - A woman, who is addicted to bitter things, gives birth to consumptive, weak or emaciated offspring.
 - A woman, who is addicted to astringent things, gives birth to an offspring having muddy complexion, constipated or suffers from reversed peristalsis.
 - A woman, who is addicted to any of the recognised causative factors of disease, gives birth to an offspring who has a great tendency to suffer from corresponding diseases.
- **6.1.11 EFFECT OF DIET OF PARENTS ON CHILD:**

Table. No. 01: Showing effect of diet of parents on child [47]

Diet	Effect on child
1. Rice cooked with milk sweetened and mix with <i>Ghrita</i> (Both partners)	Fair complexioned son with longevity of 100 years and having capacity to study one <i>Veda</i> .
2. Cooked rice with curd and <i>Ghrita</i> (both partners)	Tawny or yellowish complexion, longevity of 100 years and with ability to study two <i>Vedas</i> .
3. Cooked rice with <i>Ghrita</i> (wife only)	Dark complexioned, red eye able to learn three <i>Vedas</i> and longevity of 100 years.
4. Olea made with <i>Tila</i> and rice mix with <i>Ghrita</i> (wife only)	Erudite daughter with 100 years life span.
5. Pulp of medicine <i>Uska</i> and <i>Resabhaka</i> with rice and <i>Ghrita</i> (both partners)	Erudite bold son, pleasing sweet voice, learning all <i>Vedas</i> , longevity of 100 years.

Sushruta has described almost similar things under the heading of *Dauhrida*, as described by *Charaka*, under the heading of *Garbhopghatkara-bhava*. *Vagbhatta* has also followed by *Charaka*, but he has mentioned the effects of various diets having power to vitiate *Doshas* of foetus.

6.1.12 EFFECT OF GOOD CHARACTER, HABITS, DIET ON FOETUS:

Women who have clean and pure habits and character, and are religious-minded and worship learned *Brahmins*, give birth to children of extraordinary virtue, those who do not do so, beget children devoid of virtues. The child born to a couple partakes of their habits, behaviour, activities and food tendencies.[48]

Table No. 02: Consumption of diet (Vitiating *Doshas*) by woman and its effect on her foetus.[49]

Use of <i>Dosha</i> vitiating diet	Effect on foetus
1. <i>Vata</i> vitiating diet	<i>Jada</i> (idiot), deaf, dumb, having hoarse or nasal voice, lame, hump back, dwarf, possessing less or more body parts etc.
2. <i>Pitta</i> vitiating diet	Baldness, premature greying of hairs, absence of hairs on face, tawny colour of skin, nails and hairs etc.
3. <i>Kapha</i> vitiating diet	<i>Kustha</i> (skin disorders), <i>Kilasa</i> (a type of skin disorders) and congenital presence of teeth etc.
4. <i>Tridosha</i> vitiating diet	Mixed type of anomalies.

5.1.13 EFFECT OF PSYCHOLOGY OF WOMAN ON FOETUS: The psychology of pregnant woman may also affect the foetus growth in her womb. *Vedas* considered the fact that for achievement of conception, happiness and good psychology of woman is an important factor. In *Garbhonishad* also, the importance of the normal psychology of woman is considered, as psychological anomalies of mother may result in birth of a blind, bald, dwarf and hump backed child.[50] *Ayurvedic* scholar like *Charaka* and *Sushruta* were also aware of this fact, therefore, a pregnant woman has been advised to always think about the person throughout her pregnancy like whom she wants to have the child. She should also follow the diet, mode of life, cloths and acts of the desired person.[51] *Charaka Samhita* further clarify this fact and says that the born child simulates the characters of creature who come in thoughts of woman during fertilization.[52] Other scholars of *Ayurveda* have followed *Charaka* and expressed similar views. *Ayurvedic* text have much stressed on '*Dauhrida*'. Actually, the word *Dauhrida* means desires of foetus expressed through mother. *Charaka* opines that on appearance of *Indriyas*, *Mana* also gets associated, therefore, at the same time foetus expresses feeling of happiness and sorrow. He starts quivering due to this reason and express his desire accordingly (based on experiences of its previous life) through mother.

6. CONCLUSION: *Garbha Samskar* along with *Garbhini Paricharya* may be considered for inclusion in national health program as it helps to save the lives of mother and children not only by promoting and establishing good health before childbirth but also helpful to the mother's health in postnatal period. Developing organisms have a wide range of sensitivity to epigenetic alterations. Inapt setting up of epigenetic alterations during critical developmental periods due to maternal diet or other environmental factors may result in paediatric developmental diseases and even affect health in adulthood. Potentially reversible epigenomic state of a gene can be entrenched with behavioural and nutritional programming. Unlike genetic mutations (irreversible), epigenetic changes are inherently reversible. Drugs and diets have the potential to restore normal epigenetic status. It is also evident from research that diseases caused by epigenetic alterations may be treatable and preventable. By adopting the rules of *Garbha Samskara*, epigenetic programming is possible in order to have a healthy progeny. Appropriate dynamics in epigenetic modifications are possible with the help of *Garbha Samskara*. Further research is needed for better understanding of the interplay between genetic and epigenetic interaction in critical time windows of development and its effect on susceptibility of individual to a wide range of diseases.

7. CONFLICT OF INTEREST: NIL

8. SOURCE OF FUNDING: NIL

9. ACKNOWLEDGEMENT:

First of all, I bestow in front of *Lord Dhanavantari* and express deepest gratitude to the almighty. In addition, I express my appreciation to the blessings of my gurus and salutations to my parents. Special thanks to **Dr. Pooja Sabharwal** for their guidance and motivating me and their immense support in my presented work.

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