

Garbha Samskar: Ayurveda Way of Epigenetic Programming

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ABSTRACT

Background: 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.

Aim: To ascertain the importance of *Garbha Samskar* with special reference to epigenetic programming and antenatal care.

Results: Developing living being seems to have a wide range of perceptivity to epigenetic modulation. Befitting drift in epigenetic modifications is essential for embryogenesis, early fetal 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 pediatric developmental diseases and even influence health in adulthood. *Garbha Samskar* as explained in classical texts of Ayurveda involves the combination of *Garbhadan samskar* (preparation of to be mother and father prior 3 months of conception) and *Garbhini Paricharya* (planned program of observation, education, lifestyle modification, nutritional and medical management of pregnant lady).

Conclusion: By adopting the custom of *Garbha Samskar*, antenatal care along with epigenetic programming can be done in order to have a healthy progeny.

Clinical significance: *Garbha Samskar* may be considered as Ayurveda antenatal care and a novel preventive measure in the context of adverse epigenetic changes.

Keywords: Antenatal care, Epigenetics, *Garbhadan samskar*, *Garbhini Paricharya*.

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BACKGROUND

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 fetus, 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 Samskar* as explained in classical texts of Ayurveda involves the combination of *Garbhadan samskar* (preparation of to be mother and father prior 3 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 fetus in the womb and *Samskar* means "prepare, perfect, polish" something, through some actions or procedures.¹ 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 (behaviors like smoking, eating, drinking, exercise, and exposure to natural and manufactured chemicals in air, water, and food) with environment can

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cause epigenetic modifications that affect working pattern of genes. Thus, by adopting the custom of *Garbha Samskar*, epigenetic programming can be done in order to have a healthy progeny.

Ayurveda classics were reviewed for *Garbhadan Samskar* (before conception planning for good progeny), *Garbhini Paricharya*, *Garbhoghhatkar bhava*. A search for papers was undertaken with the following search terms: Epigenetics, epigenetic programming, epigenetic and human diseases, epigenetic and Nutrition. In addition, papers and reports were also reviewed for additional relevant literature.

REVIEW RESULTS

Child Development according to Ayurveda

Prenatal Management—Garbhadan Samskar—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.²

- *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:

- 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 behavior. Therefore, various measures to purify *shukra* and *shonita* are described in the text. It includes *Snehan* (oleation), *swedana* (sudation) followed by *panchkarma* procedures.³
- Male should adopt celibacy of 1 month.⁴
- *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.⁵ Normalcy of psychology or happiness of couple is most important for conception.⁶

- Diet before conception—*Madhur varga* medicated milk with *Ghrita* consumption by male and oil and *Masha* by female before having sex.⁷

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.⁸

Appropriate conception with all the elements in balance gives rise to a *Rupavanta* (handsome), *Satva-vanta*—full of *Sattvik* quality (virtuous, possessed with analytical knowledge, mercy, satisfaction, clarity of mind, and senses) and *Chirayu* (long-lived) progeny.⁹

Garbhini Paricharya

Ayurveda advocates the concepts of *Garbhini Paricharya* for well-being of fetus 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,¹⁰ “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. 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.

Management for *Garbhini* according to Ayurveda

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).¹¹

Masanumasika pathya (Month-wise Dietary Regimen for Pregnant Women)

During intrauterine life, fetus 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 fetus. 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 (Table 1).

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].

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.

Garbhopaghatakara Bhavas (Contraindications)

Garbhopaghathakara bhavas are the factors including *ahara* (diet) and *vihara* (behavior and conduct) which are harmful to the *garbha* (fetus). These may induce some congenital defects in the child and are not favorable for the birth of a healthy child, with all the good attributes (Table 2).

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 fetus²⁰ (Table 3).

Epigenetics

The term epigenetics, derived from the Greek word “epigenesis,” means the influence of genetic processes on development.²² 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 fetal development can generate permanent changes in body structure and function, ultimately affecting the homeostasis of specific organs in the adult life.²³

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.

Table 1: Month-wise special dietary regimen

Month	Charak Samhita ¹²	Sushrut Samhita ¹³	Harit Samhita ¹⁴
1st month	<i>Anupsanskrit kshira</i> (nonmedicated milk)	<i>Madhur shita drava Aahara</i> (sweet, cold, and liquid diet)	<i>Madhuyashti</i> , <i>madhuka puspa</i> with butter, honey, and sweetened milk
2nd month	<i>Madhur gana siddha kshira</i> (milk medicated with sweet drugs)	Similar as first month	<i>Kakoli madhur payayet</i> (sweetened milk treated with <i>kakoli</i>)
3rd month	<i>Kshira madhu</i> and <i>Ghrita</i> (milk with honey and ghee)	Similar as first month	<i>Krisara</i>
4th month	<i>Kshir Navneet</i> (milk with butter)	<i>Payonavanita samshrishta aahar</i> or <i>jangal mamsa yukta aahar</i> (cooked sasti rice with curd, and meat of wild animals)	<i>Kritodan</i> (medicated cooked rice)
5th month	<i>Kshira sarpi</i> (ghee with milk)	<i>Sastikodan panchame payasa jangal mamsa yukta aahar</i> (cooked shastika rice with milk, meat of wild animals)	<i>Payasa</i> (porridge)
6th month	<i>madhura gana aushadhi siddha kshira ghrita</i> (milk medicated with sweet drugs and ghee)	<i>Shwadamshttra siddha Yawagu</i> (ghrita or rice gruel medicated with <i>tribulus terrestris</i>)	Sweetened curd
7th month	Similar as sixth month	<i>Prithakaparni siddha ghrita</i> (ghee medicated with <i>prithakaparni</i> group of drugs)	<i>Ghritakhanda</i> (a type of sweet dish)
8th month	<i>Kshira Yawagu</i> mixed with <i>ghrita</i>	<i>Asthapana basti</i> with <i>kwatha</i> (decoction) of <i>badari</i> , <i>bala</i> , <i>atibala satapuspa</i> , <i>patala</i> , etc., <i>madhu</i> (honey) and <i>ghrita</i> superseded by <i>Anuvasana basti</i> of oil medicated with milk <i>madhura</i> drugs (different medicated enemas)	<i>Ghritapuraka</i>
9th month	<i>Anuvasana basti</i> with <i>Madhura gana aushadhi</i> medicated oil and <i>Pichudharan</i> (enema and vaginal tampon of medicated oil)	Unctuous gruels and meat-soup of wild animals up to the period of delivery	<i>Vividha anna</i> (different varieties of cereals)

Table 2: Garbhopaghatakara Bhavas

Reference	Garbhopaghatakara Bhavas
Charak Samhita	<i>Kashaya Rasa</i> (pungent drugs), <i>Vyayam</i> (exercise), <i>Vyavay</i> (coitus) ¹⁵
Sushrut Samhita	<i>Vyavay</i> (coitus), <i>Vyayam</i> (exercise), excessive satiation, <i>Karshya</i> (excessive emaciation), <i>Diwaswap</i> and <i>Ratro Jagaran</i> (sleeping in day and awakening in night), <i>Dukha</i> (grief), <i>Yanavrohana</i> (riding on vehicle), <i>Bhaya</i> (fear), <i>Utkatasana</i> (squatting), <i>Snehan</i> (oleation), <i>Raktamokshan</i> (bloodletting), <i>Vegadharan</i> (suppression of natural urges, etc.) ¹⁶
Ashtang Hriday	<i>Ati Vyavay</i> (excessive coitus), <i>Vyayam</i> (exercise), <i>Bharvahan</i> (carrying heavy weight), <i>Guru pravaran</i> (covering herself with heavy sheet), <i>Anidra nishi</i> (night awakening), squatting, <i>chinta</i> (grief), <i>Krodha</i> (anger), excitement, <i>Vegadharan</i> (suppression of natural urges), <i>Upawas</i> (fasting), <i>Adhwagaman</i> (excessive walking), <i>Kashaya Rasa</i> (use of pungent), <i>Ushna</i> (hot), <i>Guru</i> (hardly digestible food), <i>Lal vastra dharan</i> (use of red garment), <i>Madyapana</i> and <i>Mamsa sewan</i> (use of wine and meat), <i>Raktamokshan</i> (bloodletting), <i>Panchakarma</i> (purifying measures and enemas), etc. ¹⁷
Astang Sangraha	<i>Kashaya Rasa</i> (pungent drugs), <i>Vyayam</i> (exercise), <i>Vyavay</i> (coitus), emaciation, <i>Abhighata</i> (trauma), <i>Darun Cheshta</i> (conveyance causing excessive jerks), <i>Anidra nishi</i> (night awakening), <i>diwaswap</i> (day sleeping), <i>Vegadharan</i> (suppression of natural urges), <i>Ajirna</i> (indigestion), prolonged stay in hot sun or near fire, <i>Krodha</i> (anger), <i>Dukha</i> (grief), <i>Bhaya</i> (fear), <i>Upawasa</i> (fasting) ¹⁸
Kashyap Samhita	<i>Utkat vishamasan</i> (erect or flexed posture for long), shaking, <i>Atihasya</i> (excessive laughing), <i>Abhighata</i> (trauma), <i>shita jal sewan</i> (cold water), <i>Lashuna sewan</i> (garlic eating), looking declining moon, setting sun, seeing solar or lunar eclipse, misbehave with guests, rough behavior with beggars, wear tight garments ¹⁹

Table 3: Effect of dietetics and mode of life on fetus or child²¹

Diet or conduct	Effect on the fetus or child
<i>Utkatasan</i> (squatting or sitting in abnormal position); <i>Vegadharan</i> (suppression of urge of defecation, urination, or flatus); improper and <i>ativyayam</i> (excessive exercise), <i>kashay</i> , <i>ushna</i> , <i>alpabhojan</i> (use of pungent, hot edibles, or less quantity of food)	Intrauterine death of fetus or premature delivery or abortion or fetus becomes emaciated (intrauterine growth restriction)
Sleeping uncovered in open place or walking during night	Insane or extravagant child
Oral and physical strife or pugnacious	Epileptic (<i>apasmara</i>)
Ativyavay (overindulgence in sex)	Deformed, impudent, or lazy and henpecked
Sada dukhi (always distressed or grieved)	Poltroun, slender, short-lived, or less digestive power
Psychologically malevolent or constantly worried	Nature of troubling others, jealous, and henpecked
Drinking wine	Overthirsty, having poor memory, and fickle mind
Excessive use of <i>Madhur</i> (sweet) articles except milk	<i>Prameha</i> (urinary disorders including diabetes mellitus), becomes obese and dumb
Using <i>Amla</i> (sour) articles in excess frequently	<i>Raktapitta</i> (bleeding disorders), skin and eye diseases
Using <i>lavana</i> (salty) articles in excess	Early wrinkling, <i>Khaliti-palitya</i> (graying of hair and baldness)
Using bitter (<i>katu</i>) articles in excess	Weak, having less <i>shukra</i> (sperm) and infertile
Using <i>tikta</i> (pungent) articles in excess	Emaciated, weak, and scraggy with less digestive power
Excessive use of <i>kashaya</i> (astringent) articles	Swarthy, suffers from <i>anaha</i> (flatulence) and <i>udavarta</i> (eructation)

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 fetal 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.^{24,25}

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 behavior in the course of critical stage in development, nutrition status, lifestyle, and changes in gene expression that may lead to disease phenotypes.

DISCUSSION

Garbhini paricharya bestows the need of the growing fetus, the maintenance of maternal health, the strength and vitality required during labor, and for successful lactation.

Garbha Samskar, comprising various procedures, thoughts, actions, dietary modifications, aims to ensure healthy and smooth childbirth; at the same time, it sustains overall health, nutrition, and well-being of both mother and baby.

Worker bee and the queen bee have identical DNA but are very different in structure and behavior. Monozygotic (identical) twins though having the same genes, as individuals they are quite dissimilar in behavior, in personality, in health, and even in appearance many times. Identical twins tend to grow more different as they age.

Identical genes produce different effects due to epigenetics, i.e., how nurture shapes nature. Epigenetic mechanisms comprise molecular events that control the way the environment manages the genomes of organisms. Individual differences in the appearance, physiology, cognition, and behavior (the group of traits known as the phenotype) are the results of epigenetic alterations.

Epigenetic Effect of Environmental Conditions before Conception and Implantation on Health of Fetal and Postnatal Life

For achievement of conception and delivery of healthy child, *Ayurveda* has given emphasis on *Prakrit vayu (vata dosha)*, normal mental status, healthy and inapt functioning of female reproductive system, well-prepared uterus, healthy sperm and ovum. Adoption of *Garbhadan Samskar* has been advocated for the same. The procedure of *Garbhadan Samskar* is significantly relevant in the perception of modern embryology with the following facts.

In vivo and *in vitro* environmental conditions have impact on preimplantation development of mammals, modifying the blastocyst potential, which result in perpetual changes in fetal and postnatal health and physiology. There are striking effects of environment inhabited by a breeding female before conception and early in pregnancy on oocytes developing in the ovarian follicle and on embryos in the early stages of development in the reproductive tract. Behavior, cardiovascular function, and reproductive function in postnatal life are altered by the environmental conditions during preconceptional period.²⁶ *In vitro* culture conditions, as used in assisted reproduction technology, may affect the global patterns of DNA methylation and gene expression.²⁷ Maternal effects influence the development of defensive responses to threat in organisms ranging from plants to mammals through undefined epigenetic processes.^{28,29}

Evidences showing Influence of Maternal Diet During Preconceptional, 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 fetus 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 fetus). These may induce some congenital diseases in the child and are not favorable 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.³⁰

Incidences of schizophrenia have been reported to be significantly higher in adults prenatally exposed to famine conditions.³¹

Low maternal protein diet for one ovulatory cycle prior to mating in mouse has shown abnormal anxiety-related behavior and elevated systolic blood pressure in the offspring.³²

Supplementary folic acid use in human beings during periconceptional period has shown higher methylation of the Insulin-like growth factor 2 differentially methylated region.³³

Maternal overnutrition and undernutrition have shown altered hypothalamic DNA methylation affecting the overall metabolism in the adult.³⁴

Effect of Lifestyle of Parents on Growing Fetus 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.³⁵ Also atheism of parents, inauspicious deeds of previous life, and vitiation of *Vatadi dosha* lead to abnormality in fetus (both at physical and mental level).³⁶ 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 behavior. 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.

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 pediatric developmental diseases and even affect health in adulthood. Potentially reversible epigenomic state of a gene can be entrenched with behavioral 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 Samskar*, epigenetic programming is possible in order to have a healthy progeny. Appropriate dynamics in epigenetic modifications are possible with the help of *Garbha Samskar*. 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.

CLINICAL SIGNIFICANCE

Garbhini Paricharya explained in Ayurveda classics can be recommended to be adopted as antenatal care in national health program. By inculcating the procedure of *Garbha Samskar* in routine medical practice, the incidence of genetic abnormalities in progeny can be minimized. Nourishment provided through *Garbha Samskar* may enhance the innate potential of the developing fetus to overcome disease-triggering environmental conditions.

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हिन्दी सारांश

गर्भ संस्कार—एपिजेनेटिक प्रोग्रामिंग की आयुर्वेदीय दृष्टिकोण

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उद्देश्य: एपिजेनेटिक प्रोग्रामिंग के संदर्भ में गर्भ संस्कार के महत्व को स्थापित करना।

पृष्ठभूमि: गर्भाधान से वयस्क होने पर्यंत मानव शरीर का विकास प्रत्येक कोशिका के अंतर्गत प्रकृति (डी.एन.ए) और पोषण (पौष्टिक, सामाजिक और शारीरिक वातावरण) के समन्वय पर निर्भर करता है। आधुनिक विज्ञान में एपिजेनेटिक्स का क्षेत्र तीव्रता से विकसित हो रहा है, जिसके अनुसार पर्यावरण एवं व्यक्तिगत जीवनशैली जीनोम से सम्पर्क कर एपिजेनेटिक परिवर्तनों को प्रभावित करते हैं। विकासशील जीव एपिजेनेटिक परिवर्तनों के प्रति अतिसंवेदनशील होते हैं। आयुर्वेद शास्त्र में गर्भधारण एवं बालक जन्म के लिए माता और पिता की शारीरिक, मानसिक और आध्यात्मिक परिपक्वता को महत्व दिया गया है।

समीक्षा परिणाम: भ्रूणजनन, प्रारंभिक भ्रूण विकास और जन्मोत्तर प्रारंभिक वृद्धि के लिए एपिजेनेटिक परिवर्तन में उचित गतिशीलता आवश्यक हैं। मानव शरीर विकास के महत्वपूर्ण काल के दौरान मातृ आहार या अन्य पर्यावरणीय कारकों में परिवर्तन के कारण होने वाले अपर्याप्त एपिजेनेटिक संशोधन बालकों में विकास संबंधी बीमारियों को प्रेरित करते हैं अपितु वयस्कता में भी स्वास्थ्य को प्रभावित कर सकते हैं। आयुर्वेद शास्त्र में वर्णित “गर्भ संस्कार” के अंतर्गत गर्भाधान संस्कार (गर्भधारण से तीन महीने पहले गर्भधारण की तैयारी) और गर्भिणी परिचर्या (गर्भवती महिला का अवलोकन, शिक्षा, जीवन शैली में बदलाव, पोषण व चिकित्सा प्रबंधन का नियोजित कार्यक्रम) सम्मिलित हैं।

निष्कर्ष: “गर्भ संस्कार” के अभ्यास से गर्भ में एपिजेनेटिक प्रोग्रामिंग करके स्वस्थ संतान प्राप्त की जा सकती है।

नैदानिक महत्व: प्रतिकूल एपिजेनेटिक परिवर्तनों के संदर्भ में गर्भ संस्कार को एक नया प्रतिबंधक उपाय माना जा सकता है।

