

Yoga & Foetal Development

Dr. Shweta Nema

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PREFACE

“Giving birth and being born brings us into the essence of creation, where the human spirit is courageous and bold and the body, a miracle of wisdom.”

The topic ‘**Importance of Yogic Practices for the Betterment of Monthly Foetal Growth and Development**’, helped me to know very deeply on this subject to get to know of the mother’s feeling at physical as well as psychological level and towards the growth and the development of the child at various stages of foetal growth on mother’s womb. This topic also enhanced to know the vital force and the deep connection and relation between the mother and child. The mutual understanding between them and devotion towards in the empowerment of health and growth of the child and self.

Here, yoga is very helpful and plays a crucial and vital role in the management of health. The *Ahara, Vihara, Vichara, Vyavhara* which turns to give fruitful benefits. The mother’s intention towards her child, his growth and ultimately on his health and when she gives birth to the child, the affection towards her child gets more and she fully devoted towards his growth and development.

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Chapter 1

Introduction

**“Giving birth and being born brings us into the essence of creation,
Where the human spirit is courageous and bold and the body,
A miracle of wisdom.”** (Harriette Hartigan)

Pregnancy is a beautiful chapter in the expecting parents' life; one, that is cherished forever as in the end there is a tiny bundle of joy waiting to be taken home. Pregnant women are full of doubts and concerns and often rely on the advice of elders. While there is a lot of emphasis on the dietary requirements, factors like physical and emotional well-being are vital for a healthy pregnancy. Pregnancy is a happy and joyous time of life for many women. It can also be a challenging time for the mother's body and growing baby. At one end mother's body goes through numerous changes in order to create and support the development of a new life whereas at another end development of embryo into the mature foetus passes through various crucial stages of organ/system budding, its evolution and maturation. The well being and quality of life of the mother is critical for optimal pregnancy outcomes; self-soothing techniques, psycho-education, and relaxation are particularly important in this transitional and meaningful time. Ayurvedic texts described an exhaustive illustration of monthly development of foetus along with excellent care regimen for the physical, mental/emotional and spiritual bodies of the mother and her baby.

“Change is not something that we should fear. Rather, it is something that we should welcome. For without change, nothing in this world would ever grow or blossom, and no one in this world would ever move forward to become the person they’re meant to be.” (B.K.S Iyengar)

Yoga is becoming popular as a preferred form of prenatal exercise as it gives benefits of a good exercise like improved circulation, strength and flexibility but also is gentle for the joints. Yogic techniques have numerous benefits for the health of the mother and the growing foetus. Women now are aware that a normal child birth helps them heal faster – it is the natural way. Yoga is an ancient mind-body practice that originated in India and is becoming increasingly recognized and used world widely as a health practice for a variety of immunological, neuromuscular, psychological, and pain conditions. Yoga is a comprehensive system that uses physical postures (*Asana*), breathing exercises (*Pranayama*), concentration and meditation (*Dharana* and *Dhyana*) and contemplative practice. A typical prenatal Yoga consists of restorative Asana flows with increased focus on breath to gently stretch and relax in a calm setting. With the help of props like chair, Yoga belt and blocks, the Yoga teacher ensures increased flexibility and strength while cushions, bolsters etc are used to provide further support and comfort for easing into Asanas. Pregnancy is a condition in which women undergo distinct physiological changes and stress and is accompanied by unique physical and psychological demands. There is a need to manage the various physical, emotional, mental, and pain states that arise throughout the stages of pregnancy and labour. Maternal stress and anxiety during pregnancy is associated with a host of negative consequences for the foetus and subsequent development. Early gestational stress exposure is associated with negative outcomes at different developmental stages, slowed maturation and behavioural response patterns in foetuses, alterations in neonatal stress regulation

and behavioural reactions to stress, blunted cognitive functions and emotional and behavioural problems in infants and toddlers, and reduced brain volume in areas associated with cognitive function in children. In addition, prenatal maternal stress and anxiety may be risk factors for potential negative consequences for children later in life, such as the development of attention deficit hyperactivity disorder or lowered performance on aspects of executive function. The health and environment of uterus plays a crucial role in the budding of organs and evolution of systems of the foetus.

Yoga can play a major role not only in the management of mother's health but also in the development of embryo into foetus. Physical exercise can be helpful in the management of stress and other associated conditions or symptoms accompanying pregnancy, such as edema, gestational hypertension or diabetes, mood instability, musculoskeletal discomfort, aches, and weight gain. Mind-body practices that cultivate general health, diminish distress, and increase self awareness maybe be particularly effective in addressing both the physical and psycho-emotional aspects of pregnancy and labour. Labour pain is a subjective and multidimensional experience that varies according to each woman's individual perceptions of and reactions to nociceptive information during labour and is influenced by psychosocial, cognitive, and physiological factors. Confidence, self-efficacy, and coping ability are considered important for a positive labour experience, and maternal prenatal anxiety is negatively associated with pre-labour self-efficacy for child-birth and labour pain.

Yogasanas provide the needed flexibility and strength to the right set of muscles required for child birth. Hip openers and gentle supported back bends can help ease tension and prepare the body for delivery. Relaxation techniques like Yoga Nidra and Meditation are beneficial in keeping depression and anxiety away. Pranayama

increases the Prana and is great for energizing the entire body. Breathing techniques practised during pregnancy are also helpful when in labour. Regular Yoga practice can result in mindful eating and healthy weight gain along with improvement in the quality of sleep. Yoga is thought to alter nervous system regulation and physiological system functioning (e.g., immune, endocrine, neurotransmitter, and cardiovascular) and improve psychological well being (e.g., frequency of positive mood states and optimism) and physical fitness (e.g., strength, flexibility, and endurance). So we can say that prenatal Yoga classes are a perfect time to connect with the baby and feel its movements. A Stress-free healthy pregnancy reduces the chances of complications during birth and thereafter. The primary purpose of the present research work shall be to systematically evaluate the monthly development of foetus and importance of Yoga practices for the betterment of foetus.

Chapter 2

Aims and Objectives

1. Ayurvedic description for the monthly development of the foetus.
2. Modern description for the monthly development of the foetus.
3. Yogic practices for better development of foetus.

Chapter - 3

Ayurvedic Description for the Monthly Fetal Development

We all come in this world following a beautiful chemistry between two cells (male and female cells or gametes). The product of the union of sperm and ovum is called zygote. The zygote later gets evolved in the form of an embryo. Embryo is an unborn offspring in the process of development. The formation of zygote, embryo and subsequent development of the embryo into fetus in various stages of development and maturity over a period of 9 months is called Garbha in Ayurveda. The whole process is called Garbha Utpatti or Garbhavakranti (Development and maturity of fetus). This constitutes the basics of the earliest embryology known to the mankind ie. Ayurvedaic embryology or Garbha Sharir. Later the cell division progresses towards clear differentiation and manifestation of body parts and organs. At this stage it can be termed as fetus (Prenatal human between the embryonic state and birth), the process of this development of fetus takes place in steady phase and gets matured and fully formed. The fetus gradually reaches its term and finally shall be ready to the born.

Masanumasika Garbha Vriddhi

This is the month wise development of fetus from an Ayurvedaic perspective. Ayurvedaic texts especially Charak Samhita, Susruta Samhita have described monthly development of fetus in detail. The explanation is unique and may not exactly correlate with the explanation given in modern embryology month by month development of the Garbha. The embryo – fetus develops inside the uterus. There are some differences in the description of fetal development over the nine months according to the Sushrut Samhita and the Charak Samhita, the two authoritative texts of Ayurveda but they are in synch in regards to basic principals underlying the fetal development.

The union of Shukra (sperm), Artava (ovum) and Atma or Jiva inside the Kuksi (uterus) is known as Garbha (zygote, embryo or fetus). Besides Atma, the association of Prakriti and Vikaras is also essential. After development of arms, legs, tongue, nose, ears and hips etc. body parts, it is termed as Sarira.

Acharya Harita describes that the body is composed of five Tatvas, five Indriyas, seven Dhatus, ten Vayus. The body formed with the combination of Virya (sperm) and Raja (ovum) is Trigunatmaka due to influence of Jiva, Mana and Akasha. This Pancabhautika body is vulnerable for being vitiated by Doshas.

Acharya Sarngadhara clarifies that this very fetus after its delivery is termed as Bala (child). There is some difference in the events described by various authors. Acharya Charaka says that when a man copulates with a Ritumati woman, then due to excitement and pleasure the Dhaturupa Shukra situated in various body parts is excreted. This excreted Shukra Dhatu coming out of male's body, in the form of Bija (seed or sperm) enters the uterus through proper passage (vagina) and get mixed with Artava or Sonita (ovum). At this very time, due to association of Satva or Mana, the Jivatma comes there in the Garbha (zygote).

Due to constant use of congenial diet by the pregnant woman, this Garbha (fetus) grows normally and gets delivered at appropriate time with all Indriyas (sensory and motor organs) complete body parts, Bala (energy) Varna (complexion), Satva (endurance) and Samhanana (compactness) along with Matrja (maternal), Pitraja (paternal), Atamaja, Satmyaja and Rasaja Bhawas (physical and psychological components having constant association of Mana).

Acharya Susruta opines that Teja or heat generated at the time of coitus activates Vayu, then the Shukra excreted due to the action of both Vayu and Teja reaches uterus, get mixed with Artava, thus formed zygote with the union of Agni (Artava) and Soma (Shukra) stays in uterus. Then the Atma or Jiva known by synonyms of Ksetranja, Vedajita. Sparsta, Ghrata, Drasta, Srota, Rasagita, Purusa, Srasta, Ganta, Saksti, Dhala and Vakta etc, inspite of being Aksaya (imperishable) Avgaya

(eternal), Acintya (in conceivable) but due to effect of Driva (destiny), associated with Bhuta (Pancamahabhutas) Satva, Raja, Tama, Daiva and Asura etc.

Six major components of Embryo

The embryo is product of Akash, Vayu, Agni, Jala, Prithvi etc. five Mahabhutas and seat of Chetna (Atma), thus Chetna is sixth Dhatu.

The sequence of descent of Mana, Atma and Panchamahabhutas in embryo

With the help or companionship of Mana, the Chetna Dhatu proceeds for taking hold of Guna (Satva, Raja & Tama). This very Chetna is called as hetu, karana, nimitta, aksara, karta, manda, vedita, drashta, anteratma etc. This Atma at the time of beholding of Gunas first of all creates Akash in the same way as after complete annihilation of entire universe. The God of creation Brahma first of all created Akash with the assistance of Satwa, followed by gradual creation of more perceptible Bhutas as Vayu etc. Similarly in the formation of embryo also by first acquisition of Akash followed by more perceptible other four Bhutas as Vayu etc. occurs, in acquiring all the Mahabhutas, time taken is very negligible. The self along with four subtle Bhutas and with the speed by mind transmigrates from the body to the other on the basis of past deeds, it cannot be seen with ought divine pervasive, sustains all bodies, performs all action, takes all forms; is the source of consciousness, transcends all sense, is ever united and closely attached.

Source of Pancamahabhutas in fetus

Four Mahabhutas (Vayu, Teja, Jala & Prithvi) coming from four sources i.e. mother (through Shonita or ovum), father (through Shukra or sperm), Ahar – rasa (through the rasa derived from maternal diet for supplying nourishment to the embryo, the born child reflects the Bhautika (physical) characteristics of maternal, paternal Atmaja etc. factors depending upon their relative predominance; and others (psychological) depending upon the preponderance of satura etc. (Satwa, Raja & Tama) in Mana, besides, the Mana is also influenced by its left over previous deeds, such as coming after leaving the body of Devas or animals etc. it will have some of their characters Daiva or Pashu or Satwa etc. the deeds and species are also related,

or in other words due to influence of deeds it will be Satwika, Rajas and Tamas etc. and it is also due to deeds that it comes to human or other species and acquires similar characters.

Components derived from Akash Mahabhuta

1. Sobda (sound)
2. Srotrendriya (auditory system)
3. Laghava (lightness)
4. Sauksmya (minuteness)
5. Viveka (division)
6. Srotasas (channels)
7. Chidras (orifices)

Components derived from Vayu Mahabhuta

1. Sparsa (sense of touch)
2. Sparsanendriya (organs of sense of touch)
3. Rauksya (roughness)
4. Prerana (impulsion)
5. Chesta or parisvandana (activity of body)
6. Dhatu – vyuhana (formation or transportation of Dhatus)
7. Uchhwasa (expiration)

Beside these inspiration, opening and closure of eye – lids, contraction and relaxation, movements like propulsion and retention.

Components derived from Agni Mahabhuta

1. Rupa (form),
2. Chaksu Indriya,
3. Pakti (metabolism),
4. Ushma (body heat),
5. Prakash (light),
6. Pitta (metabolic enzyme),
7. Teja (sharpness or brightness),

8. Abha (lusture),
9. Darsana (visual sense)

Components derived form Jala Mahabhuta

1. Rasa (taste),
2. Rasanendriya (gustatory system),
3. Shaitya (coldness)
4. Mardava (softness),
5. Sneha (unctuousness),
6. Kleda (moisture),
7. Asrk (blood),
8. Shukra,
9. Urine etc. watery substances,
10. Vasa or Meda (fet)

Components derived from Prithvi Mahabhuta

1. Gandha (smell),
2. Ghnanendriya (olfactory organs),
3. Gaurava (heaviness),
4. Sthairya (stability)
5. Murti (stiffness or structure of body),
6. Kesha (hair)
7. Asthi (bones).

Other components described are particularly thick, heavy, coarse and hard body parts like nails, bones, teeth, flesh, skin, feces, hair, body hair and tendons etc.

According to Acharya Charak and Susruta, the monthwise development of foetus is as following -

First Month

The 'Kalal' is formed. The 'Kalal' is compared to mucus of nose which means it is likely to be sticky, semisolid and slimy even though not manifested or invisible. The 'Kalal' possesses all organs, systems and building blocks of development. It can be described as the ultra micro version of a life that is going to manifest later. Like each and everything in the universe, it is made up of the five great elements (space, air, fire, water, earth) combined together in different proportions.

Second Month

The Garbha becomes solid. In presence of the heat produced by the Kapha, the Pitta and the Vata (the three basic energy sources of body), the Garbha acquires either circular (Pinda) or elongated (Peshi) or semispherical (Arbuda) form. If it is Pinda, the Garbha develops into a male, if Peshi then it develops into a female and if semi-spherical it becomes neuter gender possessing both male and female characteristics.

Third Month

According to Acharya Sushrut Five pedestals/minute forms (Pindaka) for hands, feet, head and miniature forms of all body parts develop in the third month. According to Acharya Charak all organs, senses and systems start to bloom, so does the mind which starts to feel happy or sad. According to Ayurveda, fetal heart becomes from the mother and it is being nourished by the mother through Rasavahini Nadi (umbilical cord and placental nutrition). It establishes a connection between the fetal heart and the mother's heart. Whatever the fetus wants or feels is being reflected into mother's cravings or feelings.

Forth Month

According to Acharya Sushrut the minute forms of all body parts become evident (takes specific form and shape). As the fetal heart becomes perceivable, the Chetana Dhatu (presence of soul) becomes evident. The heart is the place or the home of the soul. As the Chetana Dhatu is manifested, the Garbha responds to sensory stimuli. That is why pregnant woman have cravings (Douhrida). The woman is called

Douhridini (with two hearts), so it is important to satisfy these cravings for a baby favored with good health and long life to be born.

According to Acharya Charak in the fourth month, the fetus becomes stable and dense. As the mass of the fetus increases, the woman starts to feel heavy.

Fifth Month

According to Acharya Sushrut the mind wakes up or becomes alert. According to Acharya Charak the blood and the muscle tissue of the fetus enhance. As most of the nutrition goes to nourishing the muscle tissue and the blood, the mother feels weak and may lose weight.

Six Month

According to Acharya Sushrut the Buddhi (intellect with the power of grasping and retaining) matures or progresses. According to Acharya Charak the fetus continues to become strong and healthy.

Seven Month

According to Acharya Sushrut all body parts becomes more mature and evident. According to Acharya Charak the fetus becomes well developed in regards to physical and mental development. The mother looks radiant with the well nourished and happy fetus inside.

Eight Month

According to Acharya Sushrut this month is very crucial. The Oja which is considered to be the purest and finest byproduct of all Dhatus (building blocks of our body loosely called as tissues), which imparts the vitality and strength to the body and without which there would not be any life, becomes unstable. The Oja moves back and forth from the mother to the Garbha and vice versa via the nutritional system (placenta, umbilical cord). Child birth in the eight month may lead to complications for both mother and the fetus due to unsteady Oja. If the Oja moves to mother's body, the fetus dies and if it moves to the fetus, the mother dies. The parturition in eight month is not recommended.

According to Acharya Charak the Oja (the purest form of all Dhatus) moves back and forth from the fetus to the mother and vice-versa through the nutritional system for the fetus. So sometimes the mother looks happy and energetic when the oja is in her body. When it moves to the fetus she looks weak and tired. So child birth in the eighth month may be fatal to the mother or the fetus depending upon the location of the Oja. As Oja is one of the many vital entities in the human body necessary for sustenance of life, the mother must be kept away from all stressful or overwhelming stimuli to avoid the labor in the eight month.

Nine Month

The ninth months onward are a favorable period for childbirth. The complete development of the fetus and delivery of the child may take place at the end of 9th month. It is said that this process of complete development of fetus and child birth may take place 9th month of pregnancy.

Ayurvedic Description of Ahar-Vihar for Pregnant Women

According to Acharya Charak the pregnant woman desirous of giving birth to healthy (healthy & food looking) child should give up non-congenial diet and life style and protect herself by doing good conduct and using congenial diets and mode of life.

The woman from the very first day of pregnancy should remain in high spirit, pious, decorated with ornaments, wear clean white clothes and perform religious rites, do auspicious, deeds and worship dietary, Brahmanas and priest, hen sleeping and sitting place should be covered with soft cushion or mattress, not be very high, possess elevated upper position for head – rest and should be perfect and very comfortable. She should be palatable. Liquid, sweets unctuous substances treated with appetizing things thing mode of life should be continued till delivery.

Month-wise Regimen

First Month

According to Acharya Charak even if having doubt of conception, the female should start taking milk from the first month itself in desired quantity (considering her digestive power and strength). Congenial diet should be taken in morning and evening. Sweet cold & liquid diet should be taken from first to third month.

Second Month

The females should prefer milk medicated with Madhura drugs and Sweet, cold & liquid diet.

Third Month

The females should take milk with honey and Ghrta. They should prefer sweet, cold and liquid diet, specially cooked Shasti rice with milk.

Fourth Month

According to Acharya Charak the female should take butter extracted milk in the quantity of one Aksha or milk with butter. They should also take cooked Shasti rice with curd daily and pleasant food mixed with milk, butter and meat of wild animal.

Fifth Month

The female should take Ghrita prepared with butter extracted milk. They should also take cooked Shasti rice with milk, meat of wild animals alongwith dairy food mixed with milk and Ghrta.

Sixth Month

The female should take Ghrta medicated with the drugs of Madhura group. They should also prefer Ghrta or rice qurel medicated with Gokshur.

Seventh Month

The female should take Ghrta medicated with Parthakparnyadi group of drugs. This helps in proper growth and development of fetus.

Eighth Month

In this month the pregnant females should take rice gruel prepared with milk and mixed with Ghrta. Acharya Bhadrakapya opines that it should not be given because by use of this the child may become lawny in complexion. Acharya Punarvasu Atreya agrees that it does produce tawny complexion, however, it is not useless, because by use of this the pregnant woman remains three from disease, and delivery the child possessing best health, energy, complexion, voice, compactness of the body and much superior to other family members. Acharya Chakrapani explains that since the side – effects are negligible and benefits much more hence it should be used.

In this month for clearing that retained feces and Anulomana (regulation or putting in right direction) of Vayu, the Asthapana Basti (evacuative enema) should be given with decoction of Bodari mixed with Bala, Atibala, Satapuspa, Patala (pestled resamum seeds), mil, curd, mastu (sour butter) oil, salt, Madanaphala, honey and ghrta, this should be followed by use of Anuvasana Basti (uncting enema) of oil medicated with milk and decoction of drugs of Madhura group.

Due to movement of Vayu in its right direction the lady delivers without difficulty and remains three from complications, after this given unctuous gruels and meat salp of wild animals, the body of woman thus treated becomes unctuous she gains strength and delivers normally without complications.

Ninth Month

This month use of Anuvasana Basti with oil prepared with the drugs of Madhura groups of the same as used in eight month. Vaginal tampon of this very oil should be given for lubrication of Garbhasthana (uterus but here cervix) and Garbhamarga vaginal canal and perineum). Though Susruta has not prescribed any specifically for ninth month, however in the regimen of eight month after use of enema continuous use of unctuous gruels and meat soup upto the period of delivery is advised. This indicated that Susruta has advised use of unctuous gruel and meat soup in ninth month also.

Benefits of monthly Ahar regimen

Describing the benefits of this dietetic regimen prescribed for the woman creaminess healthy and delivers the child possessing good health, energy or strength, voice, compactness and much superior. Use of this regimen from first to ninth month her Garbhadharini (fetal membranes or vaginal canal), Kuksi (abdomen), sacral region, flanks and back become soft, Vayu moves into its right path or direction, stool, urine and placenta are excreted or expelled easily by their respective passages: skin and nail become soft, woman gains strength and complexion and she delivers easily of proper time desired, excellent, health child possessing all the qualities and long life.

Acharya Sushruta has not described benefits separately, however, some of them mentioned and there in between the month wise regimen are – that by this the fetus attains good growth, Vayu moves in its right direction woman becomes unctuous, strong and delivers the child easily without complications. Emphasizing the importance of woman's diet it is worth mentioning that the Rasa derived from the diet taken by the pregnant woman serves three purpose –

1. Nourishment – of her own body.
2. Nourishment – of the fetus
3. Nourishment – of breast for formation of milk

During first trimester of pregnancy most woman experience nausea and vomiting, thus cannot take proper diet, use of cold and sweet liquid diet and milk will prevent dehydration and supply required nourishment besides the drugs of Madhura group being anabolic will help in maintenance of proper health of mother and fetus. Fourth month onwards muscular tissue of fetus groups sufficiently requiring more protein which is supplied by use of (meat) soup by the end of second trimester most woman suffer from edema of feet and other complications of water accumulation. Use of Gokshuru a good diuretic in sixth month will prevent retention of water as well as its complications. the drugs of Vidarigandhadi group are diuratic, anabolic, relieve emaciation and suppress Pitta & Kapha their regular we in seven month

might helps in maintaining health of mother and fetus most woman experience constipation in late pregnancy due to pressure of gravid uterus over the bowels and effect of progesterone – use of enema in eight month will relieve this constipation, besides this may also affect the autonomous nervous system governing myometrium and help in regulating their function during labor. Tampon of oil may destroy pathogenic bacteria of vaginal canal and prevent puerperal sepsis, besides this tampon may also soften vaginal passage thus help in normal labor. It is just possible that the regular use of tampon might influence autonomic fiber governing myometrium and help in regulating their functions besides this might soften the perineum and help in its relaxation during labor milk and drugs of Madhura group have been advised for entire pregnancy period milk is whole diet. The drugs of Madhura group are anabolic thus we of these will help in maintenance of proper health of mother and growth and development of fetus.

Chapter 4

Modern Description for the Monthly Foetal Development

The onset of pregnancy actually can be considered the first day of last menstrual period. This is called the menstrual age and is about two weeks ahead of when conception actually occurs. Each month a group of egg cells (called oocytes) is recruited from the ovary for ovulation (release of the egg). The egg develops in small fluid – filled cysts called follicles. Normally, one follicle in the group is selected to complete maturation; this dominant follicle suppresses all the other follicles in the group, which stop growing and degenerate. The mature follicle opens and releases the egg from the ovary (ovulation). Ovulation generally occurs about two weeks before a woman's next menstrual period begins. After ovulation, the ruptured follicle develops into a structure called the corpus luteum, which secretes progesterone and estrogen. Progesterone helps to prepare the endometrium (lining of the uterus) for the embryo to implant. On average, fertilization occurs about two weeks after the last menstrual period. When the sperm penetrates the egg, changes occur in the protein coating around it to prevent other sperm from invading. At the moment of fertilization, baby's genetic make – up is complete. Human Chorionic Gonadotrophin (HCG) is a hormone present in blood the time of conception. It is produced by cells that form the placenta and is the hormone selected in pregnancy test.

It usually takes three to four weeks from the first day of the last period for the HCG to increase enough to be detected by pregnancy tests. Within 24 hours after fertilization the egg begins dividing rapidly into many cells. It remains in the fallopian tube for about three days; the fertilized egg (called a blastocyte) continues to divide as it passes slowly through the fallopian tube to the uterus where the next step is to attach to the endometrium [a process called implantation] before this happens the blastocyte breaks out of its protective covering when the blastocyte establishes contact with the endometrium, release of hormones helps the blastocyte

to attach. Some females notice spotting for one of two days around the time of implantation. The endometrium becomes thicker and the cervix is sealed by a plug of mucus.

Within 3 weeks, the blastocyte cells ultimately form little ball shaped embryo and the baby's first nerve cells have already formed. Developing baby is called an embryo from the moment by conception to the 8th week of pregnancy after the 8th week and up to the birth developing baby is called a fetus. The set development stages of pregnancy are called trimesters or three-month periods because of the distinct changes that occur in each stage.

Monthly Fetal Development

First Month

As the fertilized egg grows a water-like sac forms around it, gradually filling with fluid, this is called the amniotic sac, and it helps cushion the growing & embryo. The placenta also develops. The placenta is a round, flat organ that transfers nutrients from the mother to the baby, and transfers wastes from the baby.

A primitive face starts taking shape within large dark circles for eyes. the mouth, lower jaw and throat are developing blood cells are taking shape and circulation commons the tiny 'heart' tube starts beating 65 times a minute by the end of the fourth week by the end of the first month, baby is about ¼ inch long – smaller than a grain of rice.

Second Month

Baby's facial features continue to develop, each ear begins as a little fold to skin at the side of the head. Tiny buds that eventually grow into arms and legs are budding fingers, toes and eyes are also forming. The neural tube (brain, spinal, cord and other neural tissue of the central nervous system) is well developed, the digestive tract and sensory organs begin to develop, and bone starts replacing cartilages. The head is large in proportion to the rest of the baby's body. By the end of the second month, baby is about 1 inch long and weighs about 1/30 an ounce. At about 6

weeks, baby's heart beat can usually be detected. After the 8th week, baby is called a fetus instead of an embryo.

Third Month

Baby arms, hands, fingers feet and toes are fully developed feet and toes are fully baby can open and close first and mouth finger nails and toenails are beginning to develop and the external ears are formed. The beginnings of teeth and baby's reproductive organs also start to develop. By the end of third month, baby is fully formed; all the organs and extremities are present and will continue to mature in order to become functional. The circulatory and urinary systems are working and the liver produces bile. At the end of the third month, baby is about 4 inches long and weighs about 1 ounce. Since baby's most critical development has taken place, the chances of miscarriage drops considerably after three months.

Fourth Month

Baby's heartbeat may now be audible through an instrument called a doppler. The fingers and toes are well-defined. Eyelids, eyebrows, eyelashes, nails and hair are formed, teeth and bones becomes denser, baby can even suck his or her thumb, yawn, stretch, and make faces. The nervous system is starting to function, the reproductive organs and genitalia are now fully developed. By the end of the fourth month, baby is about 6 inches long and weighs about 4 inches ounces.

Fifth Month

Mother often begin to feel the baby's movements since she is developing muscles and exercising them, this first movement is called quickening. Hair begins to grow on baby's head, baby's shoulders, back and temples are covered by a soft fine hair called lanugos. This hair protects baby and is usually shed at the end of the baby's first week of life. The baby's skin is covered with a whitish coating called vernix caseosa. This cheesy' substance is thought to protect baby's skin from the long exposure to the amniotic fluid. This coating is shed just before birth. By the end of the fifth month baby is about 0 inches long and weighs from ½ to 1 pound.

Sixth Month

Baby's skin is reddish in color, wrinkled and veins are visible through the baby's translucent skin, baby's finger and toe prints are visible, the eyelids begin to part and the eyes open. Baby responds to sounds by moving or increasing the pulse. May notice jerking motions if baby hiccups. If born prematurely, baby may survive after the 23rd week with intensive care. By the end of the sixth month baby is about 12 inches long and weighs about 2 pounds.

Seventh Month

Baby continues to mature and develop reserves of body fat. Baby's hearing is fully developed. He or she changes position frequently and responds to stimuli, including sound, pain and light, the amniotic fluid begins to diminish. At the end of the seventh month, baby is about 14 inches long and weighs from 2 to 4 pounds. If born prematurely, Baby would be likely to survive after the seven month.

Eighth Month

Baby continues to mature and develop reserves of baby fat, may notice that baby is licking more. Baby's brain is developing rapidly at this time and baby can see and hear. Most internal systems are well developed, but the lungs may still be immature. Baby is about 18 inches long and weighs as much as 5 pounds.

Ninth Month

Baby continues to grow and mature: the lungs are nearly fully developed. Baby's reflexes are coordinated so he or she can blink, close the eyes, turn the head, grasp firmly, and respond to sounds, light, and touch, now the baby is mature enough to sustain her life in external world. In 9th month body movement is less due to tight space baby's position preferably cephalic changes to prepare itself for labor and delivery, the baby propels out due to labor through the pelvis usually, the baby's head is down towards the birth canal. Baby is about 18 to 20 inches long and weighs about 7 pounds.

Week	Size – head to bum	Weight
8	1,6 cm	1 gram
9	2,3 cm	2 gram
10	3,1 cm	4 gram
11	4,1 cm	7 gram
12	5,4 cm	14 gram
13	7,4 cm	23 gram
14	8,7 cm	43 gram
15	10,1 cm	70 gram
16	11,6 cm	100 gram
17	13,0 cm	140 gram
18	14,2 cm	190 gram
19	15,3 cm	240 gram
20	16,4 cm	300 gram
21	26,7 cm	360 gram
22	27,8 cm	430 gram
23	28,9 cm	501 gram
24	30,0 cm	600 gram
25	34,6 cm	660 gram
26	35,6 cm	760 gram
27	36,6 cm	875 gram
28	37,6 cm	1005 gram
29	38,6 cm	1153 gram
30	39,9 cm	1319 gram
31	41,1 cm	1502 gram
32	42,4 cm	1702 gram
33	43,7 cm	1918 gram
34	45,0 cm	2146 gram
35	46,2 cm	2383 gram

36	47,4 cm	2622 gram
37	48,6 cm	2859 gram
38	49,8 cm	3083 gram
39	50,7 cm	3288 gram
40	51,2 cm	3462 gram
41	51,7 cm	3597 gram
42	51,5 cm	3685 gram
43	51,3 cm	3717 gram

Hormones of Pregnancy

The heavy hitter hormones of pregnancy are estrogen, progesterone and relaxin. The levels of these hormones undergo the biggest changes and have great effects on the body. There are other changes to the endocrine system but Yoga practice not adjective this.

Estrogen

- Increases 1000 fold which increase blood flow
- Growth and function of uterus and breast.
- Sodium and water retentions.
- May influence emotional mood swings.
- Increase pliability of connective tissues.

Progesterone

- Increase 10 fold which
- Increases hypothalamus to cause fat storage
- Increases basal body temperature.
- Increase amount of sodium excreted by kidney's
- Decreases gastrointestinal mobility

- Decreases smooth muscle tone of bladder, stomach intestines, uterus sphincters.

Relaxin

Relaxes the tendons, muscles and ligaments, this hormones facilitates the birth process by causing a softening and lengthening o the cervix and the pubic symphysis (the place where the public bones come together). Relaxin is released into the body immediately after conception and peaks at 3 months. it remains constant until labor in which there is a significant rise.

All three of these hormones, a common denominator is that in some manner or another, there is instability being created in the body by the softening of connective tissue, ligaments and tendons and smooth muscle tone, this is necessary to create the space for the growing baby, placenta and uterus.

Life in the womb

Medical science has discovered a good deal about the day – to – day development of the human embryo, its growth into a foetus and its ultimate birth as a child. At about six or seven days after conception the new organism embeds itself in the lining of the uterus. At this stage it is called an embryo until its species is recognizable, which in human beings is about the seventh week. After that the organism is called a foetus until the time of its birth. The limbs appear as tiny buds on the embryo when it is less than a month old. At that time, the embryo is completely formed, although it is less than half an inch in length. The heart is usually beating a few days before the end of the first month of life. At this time the baby is enclosed in a sort of bag called the amniotic sac, in a completely liquid environment. He will remain in the sac until it breaks at birth, or a little before, exposing the child to air. By the seventh week, the embryo is recognizably human. The brain has formed sufficiently to send out electrical impulses and even at this early stage the brain is the co-embryo grows at the rate of about a millimeter a day. This is not regular growth, but the development of first one portion and then

another of what will be the human body. The skeleton begins to develop when the embryo is forty-six to forty-eight days old. The foetus can move and be quite active during the third month and certainly is so from that time on. It develops muscles, can move its limbs and soon learns to grasp. The muscular contractions which will later become facial expressions can be recorded. In most cases, the mother does not feel the movement of her child until he has grown sufficiently that the uterus has expanded above the natural container of the pelvis, usually the fourth or fifth month. The nervous system is also developing – the foetus can react to pressure and loud noise. This sensitivity to outside stimulus is perhaps the most important thing about the foetus. The influence of the pre birth environment is extremely important in determining what the individual reactions will be. We do not know as much as we might about the nature of the prenatal environment and its influence on the physical and mental health of the eventual adult. We do know that X-rays, many drugs – including nicotine – and other substances have some adverse influence on the formation and growth of the foetus.

It is believed that the first part of the human body to become sensitive is the mouth. Only later do the eyes, hands and other body parts achieve sufficient nerve endings to be sensitive to touch. By the end of the ninth week of foetal life the only important parts of the body which are not sensitive to touch are the back and the top of the head, which will remain insensitive until after birth. By the end of the fourth month of life, the baby has gained half the height he will reach before birth. Certainly during the fifth month his movements can be detected by the mother. He sleeps and wakes, and has already acquired some of his favourite physical positions. During the sixth month, the child begins to accumulate some fat and he gets the buds for his permanent teeth behind the milk teeth that are now developing. By the end of the Sixth month the child is as much as a foot long and weighs about half a kilo.

The last three months of life in the womb see the completion of many body parts, but this is mostly just polishing off. During this final period the child is primarily growing, gaining weight and achieving muscular control. By the time he is ready to

be born he is so big that his movements are extremely hampered by the restricted area now provided by the uterus. His demands are such that the placenta is no longer able to fulfil them all. This spectacular growth occurs in the mother's own body with no conscious effort on her part. With the help of various Yoga practices, however, the expectant mother can become more aware of the foetus in the womb, fully experiencing this most intimate of relationships.

Childbirth

Birth begins when a birth hormone (pitocin) is secreted by the pituitary gland, and the amniotic sac breaks, releasing the fluid that has protected the child from shocks and traumas. The occasional contractions of the uterus that are felt throughout pregnancy increase in frequency and intensity, and the 'labor' pains have begun.

First stage of Labor

These contractions last 15 seconds to one minute, beginning with a gradual tightening of the womb that comes to a strong peak, then slowly subsides. This stage may last 2-24 hours, depending on the size and position of the baby, the size of the mother's pelvic area, and the behavior of the uterus. At this time the lengthwise muscles of the uterus are involuntarily working to pull open the circular muscles of the cervix. As the cervix opens wider (effacement) the contractions become stronger and more frequent until the cervix is fully dilated.

Transition : That phase of labor just before the cervix opens to a full 10 centimeters to accommodate the baby's head and allow the baby to enter the birth canal. This phase is the one that is usually felt to be most painful, and may be accompanied by nausea, leg cramps, trembling, backache and increasing irritability and fear.

Second stage labor

This begins with a strong desire to bear down and push the baby out. However, this urge must be restrained until the cervix is fully opened. Once this is achieved, you may fully surrender to the desire to push. Here the pain of transition is transformed into a feeling of high exhilaration as you take an active part in the baby's journey into the world. It is in this stage that anaesthetic is usually given, but given the

proper training and preparation, this may be avoided. A 'natural childbirth' will leave you alert at the climax of birth, which is experienced not as pain but as joy.

Third stage of labor

The delivery of the placenta (umbilical cord) which is expelled after the baby is born. This usually takes place within 5-10 minutes, and with this clear removal of the 'afterbirth' the birth of the child is fully accomplished.

Diet for Pregnant Female

As many as 90% of Indian pregnant women are deficient in protein. Pregnant woman should remember that the food they eat is the main source of nutrition for their baby hence one of the best things that they can do for their baby is to eat a healthy diet during pregnancy, says an expert.

Protein: Protein requirement during pregnancy increases to help develop the baby and the placenta. It also helps to fight against nausea and fatigue. Its main sources are sea food, lean meat, poultry, milk & milk product egg, beans, nuts and seeds, soya products,

Iron: Iron can prevent anemia and infections. It can support the body's growth and brain development. During the entire pregnancy period, an additional 760 mg of iron is needed. Its main sources are non vegetarian like meat, chicken, fish, turkey, cooked egg. Vegetarian sources are vegetables, beet-root, pomegranate, legumes, nuts, peanut, cereals, pulses. For better absorption one should add vitamin – C rich fruit just after meal. One should also avoid tea especially one hour before and one hour after having an iron rich meal.

Calcium: A body builds (his or her) bones through the calcium in the mother's blood. The baby's heart, nerves and muscles depend on calcium for growth. If the calcium intake is not enough, even the mother's bone health is at risk. The recommended intake of calcium during pregnancy is 200 mg / day. The major sources of Calcium are low fat drink products, milk, curd, yogurt, fish, tofu, cereals,

bread, almonds, orange, dry fruits, apricots, green leafy vegetables. Calcium is best obtained through food sources, yet a calcium supplement can help the mother meeting nutrition needs during pregnancy. Sufficient vitamin D intake also helps in calcium absorption.

Diet Preferences in First trimester

Although one needs a variety of nutrients throughout the pregnancy to keep oneself and one's baby healthy. A few which are particularly important for baby's development in first trimester are – The most important nutrients needed during the first trimester are folic acid, iron and vitamin B₆. Folic acid protects baby from neural tube disorders such as spine bifida and other birth disorders like cleft palate. Iron is essential to make healthy red blood cells that carry O₂ around baby's body. Not having enough iron can leave one tired and breathless. Iron deficiency anemia (low Hb) is common in India, so this nutrient is important throughout pregnancy. Morning sickness might leave one feeling queasy and unable to eat much. There is some evidence to suggest that vitamin B₆ might help to ease nausea.

Diet Preferences in Second Trimester

In the second trimester baby's bones are growing and so is his brain. Baby needs plenty of calcium and vitamin D for growing healthy bones and omega 3 is essential for baby's brain development. Another nutrient we should mark in our meal planners for the second trimester is beta-carotene, a form of vitamin A that helps given is healthy blood and skin continued iron rich food.

Diet Preferences in Third Trimester

In the third trimester, baby's growth will speed up as he gains weight and prepares for life outside the womb. Because of this baby is gaining weight rapidly. Pregnant female should try not to worry too much about the extra kilos (weight), as long as eating a well-balanced and healthy diet. Energy requirement will increase as baby is building layers of fat. Vitamin K is essential for blood clot, which is important after child birth. It is therefore recommended that in third trimester female should

take plenty of food rich in vitamin K, so that baby is not low on this vital nutrient at birth.

As in the first and second trimester, iron continues to be an important nutrient in third Trimester to prevent anemia. If woman is anemic, and the condition goes untreated, the female shall be on higher risk of having premature labor.

Diet for Pregnant Women

Indian food is a collection of many cuisines. There are unlimited options available for planning a pregnancy diet. Certain common ingredients tend to be predominant, and a diet plan based on these food habits goes a long way in ensuring the right nutrition. There are some common requirements to address when adopting a pregnancy diet. For example, folic acid is one of the most important requirements for a pregnant lady. Iron deficiency is a common problem amongst Indian women, and during pregnancy, one must ensure that this need is addressed. Raisins, beans, spinach and meat (mutton) are some of the iron-rich food items that are readily available, and an easy way to consume them is to cook them with potatoes (another north Indian staple) or oranges. The vitamin C in the latter is a catalyst in iron absorption. With a low-meat diet in some Indian households, it is important to identify Indian protein-rich food during pregnancy. Other important nutrients required in this crucial phase include fats and vitamins which are as important for the growing baby as they are for the mother. If you are wondering what Indian food to eat, here is a list of the essential food sources.

Dairy: Milk products are highly recommended during pregnancy. Products like curd are good sources of protein, vitamins and calcium. Cooked pasteurized paneer is a great source of calcium

Pulses: Dal is an important source of protein. Vegetarian expecting mothers need to consume more pulses and lentils to keep up with the necessary protein intake

Dry Fruits and Nuts: Dry fruits are a great source of protein. Some of the recommended nuts include almonds, pistachios, dates and walnuts.

Meat and Fish: Considered as the best source of concentrated proteins, meat and fish should be a part of your diet if you are a non-vegetarian. Egg-whites are another good protein source. While mutton is a good source of iron, omega 3 fatty acids found in fish are known to reduce allergy risks in the baby and increase cognitive development of the child.

Fresh Fruits: It is important to keep the fibre intake optimal to avoid constipation which is a common complaint during pregnancy. Fresh seasonal fruits and greens are a perfect choice and are easily available. They also provide a lot of essential vitamins and minerals. Watermelon is one of the best fruits to have during pregnancy as it helps in reducing morning sickness and dehydration. Mangoes, oranges and lemons provide vitamin C.

Vegetables: Green, leafy vegetables are recommended during pregnancy as a source of many minerals. Spinach is a source of iron and the all-important folic acid or vitamin B, a first trimester essential. Other vegetables like tomatoes are loaded with vitamin C. Peas and broccoli are some of the top vegetables that should be included in a pregnancy diet. Dark green lettuce contains vitamin K, iron, potassium and fibre and should definitely be on your list.

Liquids: Fresh juices are loaded with minerals and vitamins necessary for pregnant women. Make sure you are drinking water and keeping yourself hydrated. Infused water (with fruits) is another good choice for hydration. Packaged juices contain a high amount of artificial sweeteners and preservatives, and hence, should be avoided

Fats: A certain amount of fats is a must in every pregnant woman's diet. This high-energy source is important for the growth of the baby and prepares the woman's body for childbirth. Vegetable oil has the essential unsaturated fats and is best suited for consumption. Pregnant ladies should avoid butter and ghee as they contain a high quantity of saturated fats.

Indian Diet in Pregnancy

An Indian diet needs to tick the important boxes when it comes to pregnancy. The food sources mentioned above are part of a selection of options that provide crucial nutrients and minerals. It is paramount that pregnant women follow a plan which provides all the nutrients without stressing the digestive system. The meals need to be spread out, rather than the usual 3-meal routine. Do make sure that there are no large gaps between meals. An Indian diet plan for pregnancy would include a set of dishes and food sources that ensure that the nutrients and extra calories needed for a healthy child and mother are present in the right balance.

An Ideal Diet Plan for a Healthy Pregnancy

Pre-Breakfast Snacks – Around 7 AM

A pre-breakfast snack is crucial for pregnant mothers. It is especially useful to prevent morning sickness. The snack should be light and energetic as it prepares the body for the rest of the day. Recommendations include a glass of milk or a milkshake. Almond milk is a traditional favourite along with dry fruits. Apple and tomato juice are also a healthy option.

Milk is an important source of calcium, which is crucial for the development of the baby. Almonds provide protein, healthy fats, iron and vitamin E. Apples are a good snack too. Research shows that consumption of apples can protect the baby from asthma in the future. Another recommendation is tomato juice, which helps in purifying blood and acts as a source of iron and vitamin C.

Breakfast – Around 9 AM

Poha and rava-upma are very common Indian breakfast delicacies. They also make for perfect breakfast food for pregnant women. Poha contains a good amount of iron and carbs, and rava upma contains minerals like iron, magnesium, calcium (along with being a low-fat energy source). Parathas with fillings are heavy and energy-filled options but need to be prepared using less oil. Other equally healthy and convenient options include whole wheat bread which provides a lot of fibre along with essential nutrients and oats which are a valuable iron source.

Sandwiches with veggies (rich vitamin and iron sources) are a convenient breakfast food. Fruits are another source of vitamin and fibre.

Mid-morning Snacks – 11 AM to Noon

A comprehensive Indian pregnancy diet chart would include the all-important mid-morning snack too. Soups are suggested for this meal as they are light on the stomach and packed with nutrients. Options include chicken, tomato, spinach, carrots and beetroots-all of these are readily available in an Indian kitchen.

Lunch – 1.30 PM

Dry chapattis or parathas with curd are some of the common lunch recommendations in a pregnancy diet chart. Rice with chicken curry and raita is another good option for lunch.. Chicken is a great source of lean protein and niacin (vitamin B3). Khichdi is a healthy and light option for lunch just like another Indian favourite, curd rice. The main benefits of rice dishes include instant energy, prevention of urinogenital infections due to the diuretic properties, and a boost to the mother's immunity. Traditional wheat bread like rotis and parathas are good sources of fibre and carbs.

Evening Snacks – (Keep Snacking between Lunch and Dinner time)

Pre-dinner evening snacks are very important for pregnant ladies. Some of the recommendations include various halwas, idlis, smoothies, roasted peanuts, lightly fried cutlets and dry fruits.

Dinner – 8 PM

Along with lunch, this is another heavy meal in the pregnancy diet chart for women. Dal is a nutritious traditional preparation and should be part of dinner along with rice or dry rotis, which provide the necessary carbs. Khichdi, curd, parathas and curries are also a good source of nutrition. Yogurt and buttermilk aid digestion. End the day with a glass of milk and a couple of dates before sleeping. Milk has melatonin which helps in ensuring good sleep and dates have properties that stimulate uterine contractions.

Indian Foods to Avoid during Pregnancy

Indian cuisines involve myriad ingredients cooked in different ways. It can be hard to keep track of everything that goes into each dish. However, during pregnancy, some foods should be strictly avoided. The list of what not to eat during pregnancy begins with papaya which has certain compounds harmful for pregnant women. Another Indian kitchen favourite, the aubergine or eggplant is also on the no-no list for pregnant women, as it has menstruation inducing properties. Raw eggs are also to be avoided because of the dangers of salmonella, a bacillus which causes diarrhoea, fever and abdominal cramping. There are more Indian foods to avoid during early pregnancy. Indian cuisines use sesame seeds, fennel seeds and fenugreek (methi) which can cause uterine contractions because of the presence of phytoestrogens. Monosodium Glutamate, commonly known as Ajinomoto and is used in Indo-Chinese dishes, is harmful too.

Vitamins Required during Pregnancy

1) Important Vitamins required during Pregnancy

Vitamin B or folic acid is one of the most crucial vitamins for the well-being of a pregnant woman. It is an important requirement during the early stages and pre-conception. Deficiency in Vitamin B during pregnancy leads to neural tube defects in the baby.

Vitamin D is the main facilitator of calcium absorption. Deficiency may cause complications with the skeletal system and bones of both the mother and the child.

Ascorbic acid or **Vitamin C** is another important pregnancy-diet nutrient. Vitamin C helps in absorbing iron, an important mineral required for expecting mothers. A deficiency can hamper the brain-growth of the foetus.

2) Food Sources to Get the required Vitamins

Foods strong in folic acid or vitamin B include green leafy veggies and liver. Broccoli, lentils, peas, cauliflower and beetroot are important sources of this nutrient.

Mushrooms, dairy products and eggs are sources of vitamin D. Regular walks in sunny weather are another great way to soak up some vitamin D.

Capsicum, spinach, citrus fruits and peas are a great source of vitamin C.

Is it Important to Add Supplements to the Indian Diet?

During pregnancy, your body goes into an overdrive state and ensures that both the mother and the baby are well-nourished. There can be scenarios where certain deficiencies occur and you need supplements to compensate the deficit. It is important to identify these scenarios before one opts for supplements. The biggest deficiencies that can occur with Indian diets are those iron and concentrated protein. Vitamin deficiencies are also another common occurrence.

Prenatal vitamin supplements should include vitamins B, B12, C and D, along with thiamine, riboflavin, niacin and calcium.

Specific folic acid (vitamin B) supplements can also be recommended by a medical practitioner to reduce risks of neural tube defect.

Probiotics are also recommended to aid digestion.

Iron supplements are a common prescription for pregnant women who are anaemic. The increase in blood levels means more iron is needed by the body.

Vitamin C is sometimes recommended as a complimentary supplement as it helps in the absorption of iron.

Never self-medicate when it comes to supplements because it might result in imbalances. Always consult a specialist to identify deficiencies and get prescriptions for the required supplements.

3) Tips to Keep your Baby and you Healthy

Here are some more pointers for pregnant women to ensure the health of both the mother and the child. Add more healthy options to the traditional Indian diet and make sure you avoid certain foods and habits. Remember that every bite counts when you are pregnant since your baby's nutrition depends on you.

No smoking: Smoking can cause your baby to be premature and underweight and put it at a risk of many other serious complications, including SIDS (Sudden Infant Death Syndrome).

Stay away from alcohol: Alcohol consumption can cause many defects to the baby, especially with cell development. Remember that the alcohol that courses through a mother's blood can enter the baby's system.

Avoid Colas: Aerated drinks contain no nutrients and have too much sugar. Avoid colas during pregnancy.

Avoid Excessive Eating: Eating for two doesn't refer to the amount of food, but rather the quality and balance. Becoming overweight and above the regular pregnancy weight can cause preterm births and gestational diabetes.

Avoid Cold Cuts: Completely avoid uncooked meats like sushi, as they may contain parasites such as tapeworm. Uncooked meat may also contain salmonella bacteria which carries a risk of food poisoning.

Avoid Caffeine: Tea and coffee should be consumed in moderation. Certain studies attribute higher risks of miscarriage to excess caffeine consumption.

Choose your Fish: Shrimps and canned light tuna are very good sea food options as they are low in mercury. Omega-3s are good so pop in some fish liver oil capsules daily. A dosage of 300 mg per day is recommended.

Focus on Proteins: Soy products like tofu contain good protein and folic acid. While proteins help the baby grow, folic acid keeps birth-defects at bay.

Try not to Diet: Avoid modern weight-loss diets like low-carb plans. If you are pregnant, stick to tried and tested methods of nutrition.

Ensure Hygiene: Stay away from potential bacteria hazards like soft cheese and leftovers. The fridge should not be set at more than 4 degrees

Indulge Occasionally: Save your favourite junk food for a special occasion. Loaded sugar and food with a high salt content is known to create a similar preference in the baby who gets accustomed to it.

Increase Calcium Intake: Calcium is essential for the baby's development in the last two trimesters. It also reduces osteoporosis risks for you in the long run.

Indian Diet Plan for Pregnancy

Pregnancy brings in a lot of emotions. Everyone you meet has a piece of advice to give you regarding what you should do and what you should eat. This brings in even more confusion. This Indian diet plan for pregnancy will help you clear the air a bit. Here is a sample Indian diet plan for pregnancy which will give you an idea of what food items can be chosen for obtaining optimum nutrition for your baby and yourself. A woman who starts her pregnancy with a nourished body has a lot of nutrient reserves to supplement the growing fetus. Hence the growth of fetus is optimized without affecting the women's health. A well-nourished mother can also lower the risk of post partum complications. And also aids in better lactation. Hence the items mentioned below should be consumed right from the time you want to start planning your baby.

Smart nutritional choices can help make sure that you and your baby start out with the nutrients that you both need. The key to good nutrition during pregnancy is the balance. Before we see the Indian diet plan for pregnancy let us first look at the foods that I have used in making this Indian diet plan for pregnancy and their nutritional importance during this phase.

Meat, Poultry, Fish, Eggs, and Nuts: These foods provide protein, iron, and zinc. There is an increased demand for protein during pregnancy particularly in the second half of pregnancy. The normal protein requirement of adult women is 1gm/kg body weight. During pregnancy, it is recommended to have an additional 15 gm/day. The additional protein is essential to meet growing tissue demands.

Milk, Yogurt and Cheese: This group is a major source of protein, calcium, phosphorus, and vitamins. Dairy products are one of the best sources of calcium, and your body needs a lot of it during pregnancy. Eat low-fat dairy products if you are worried about too much weight gain in pregnancy. Cheese, milk, yogurt are excellent foods for pregnancy.

Fruits: This group provides Important nutrition during pregnancy like vitamins A and C, potassium and fiber. Fruits such as oranges, grapefruit, melons, and berries are the best sources of Vitamin C. It's easy to eat three or more servings of fruit a day: juice or fresh fruit for breakfast, fresh or dried fruit for a snack, a fruit salad with lunch and a cooked fruit dessert with dinner.

Vegetables: One should have raw, leafy vegetables like spinach (palak) and other vegetables like carrots (gajar), sweet potatoes (shakarkand), corn (Makka), peas (matar) and potatoes. These foods contain vitamins A and C, folate, and minerals such as iron and magnesium. They are also low in fat and contain fiber, which helps to alleviate constipation.

Bread, Cereals, Rice and Pastas: This group provides complex carbohydrates (starches), an important source of energy, in addition to vitamins, minerals, and fiber. Pregnant women need 6 to 11 servings daily from this group. Grain products are also a good source of protein, which is the building material of body tissue for you and your baby. Many grains are enriched with B-vitamins and iron.

Fats, Oils, and Sweets: Use sparingly, since these products contain calories, but few vitamins or minerals. Fats should not make up more than 30 percent of your daily calories. Try to select low-fat foods.

Iron-Rich Foods: Many Indian women are anemic (from monthly blood loss, improper diet or previous pregnancies), you may want to fortify your iron levels even before becoming pregnant with such foods as meat, raisins and prunes or beans, soy products and spinach. Your body is better able to absorb iron when consumed with foods rich in vitamin C, such as citrus fruits, potatoes, and broccoli.

Folic Acid: Pregnancy doubles a woman’s need for folate (folic acid or folacin). Research suggests that folic acid supplementation during the weeks leading up to and following conception may help prevent neural tube defects. Foods rich in folic acid include liver, deep green leafy vegetables.

Detailed Diet Plan

Simple tips on how the trimester will progress and how your food choices should be. We have given a sample detailed **diet plan of 1 week of each trimester**. The diet plan provides you with all the needed micro and macronutrient that are necessary for your safety, well being and for your baby’s growth. You will find the detailed calculation of nutrients as well.

Indian diet plan for Pregnancy

Food item	Calorie (kcal)	Protein (gms)	Nutrifact
Early morning : (7.00 am)			
Rose flavored milk(1 glass)	150	4	Milk is the best way to start your day, it will cool the acid rush down, and the nutrients in milk will be are absorbed better on an empty stomach
Wheat rusks(2 pieces)	50	2	Dry carbs in the morning helps in relieving morning sickness
Soaked almonds (6 pieces)	50	4	It is a good source of protein and omega 3 acids
Dates (2 pieces)	25	1	It helps in maintaining ph balance in the blood due to a rise in blood volume
Breakfast (9.00 am)			
Carrot stuffed paratha(2 medium sizes)	200	6	Carrots help in providing fiber keeps you away from the skin and digestion problem during pregnancy, and cuts on

			the risk of the baby developing jaundice at birth.
Curd1 soup bowl(1 soup bowl)	75	4	Curd provides calcium, protein, vit a and d very beneficial during pregnancy, and helps you enhance your mood during downs.
Or			
Egg omelet(2 no.)	160	10	Eggs are easy to make and the best sources of proteins that help in baby's growth.
Toasted brown bread(2 slices)	100	3	Dry carbs help in relieving morning sickness
Or			
Vegetable oats upama (1 soup bowl)	250	3	Multi nutrients from veggies and good fiber to tackle constipation
11.00 am			
Apple / orange / pomegranate (1 medium size)	40	–	These fruits help in maintaining hydration and ph balance in increasing blood volume.
12.00 pm			
Coconut water / lemonade (1 glass)	30	–	It benefits in constipation, sluggish digestion, heartburn, and urinary tract infections during pregnancy
Lunch(1.30 pm)			
Chapati / phulka(2 no)	200	6	–
Dal tadka / fish curry(1 soup bowl)	150	6	Fish helps in obtaining nutrients like pufa and mufa and good quality protein for

			development of the baby.
Palak paneer(1 small bowl)	150	6	Spinach is rich in folic acid and iron and helps in maintaining a healthy pregnancy.
Lemon rice(1 small bowl)	100	2	Vitamin c from lemon helps in taking care of the huge metabolic wastes produced in the body during pregnancy.
Sliced tomatoes(2 medium sizes)	40	–	Antioxidant lycopene helps in taking care of metabolic wastes.
2.30 pm			
Buttermilk(1 glass)	40	1	Helps in hydration and heartburn
4.30 pm			
Tea(1 cup)	50	2	–
Cheese chilly toast(2 slices)	150	4	Cheese has good calcium and protein which helps in the growth of the baby. It also helps in the formation of smooth stools, which helps relieve constipation.
6.00 pm			
Roasted chana(handful)	50	1	Good protein and iron content for the heamoglobin formation
Jaggery(small pieces (15 gms))	25	–	Its iron content helps in increasing hemoglobin with increasing blood volume.
Or			
Dry fruit chikki (made in gurr)(4 small pieces)	100	2	Good combination of iron and protein
7.30 pm			
Vegetable soup /	125	2	—

chicken soup(1 soup bowl)			
Dinner (8.00 pm)			
Jowar / bajra roti with ghee (1 tsp)(2 medium sizes)	200	6	These grain are easy to digest and do not burden the system.
Mung dal and methi sabji(1 bowl)	150	4	Good combination of protein and iron for baby's growth
Kadhi / potato gravy(1 bowl)	150	3	—
Jaggery(2 spoon)	25		Its iron content helps in increasing hemoglobin with increasing blood volume.
<u>koshimbir</u> / salad(1 bowl)	50	2	Fiber helps in better digestion
Beetroot + carrot kheer(1 bowl)	150	6	Beetroot and carrots increase hemoglobin and are rich in vitamin a and other essential nutrients that help in the growth of the baby.
10.00 pm			
Milk(1 glass)	150	4	Along with good nutrition, a glass of warm milk at bedtime helps in getting a good night sleep.
2 dates (2 pieces)	25	1	It helps in maintaining ph balance in the blood due to a rise in blood volume
Total	2600	77	

Chapter 5

Importance of Yogic Practices in Foetal Development

The Yogic practices which is effective for pregnancy are consisted of loosening exercise consisted of loosening exercise, breathing exercise, sitting posture; sine postures, Pranyama and meditation. There is also the belief that if you did and activity prior to pregnancy then continue to enjoy it throughout pregnancy. Physiological and anatomical changes that happen to the pregnant body regardless of pre-pregnancy condition. Focusing more specifically on Yoga and the first trimester woman's facing the challenges of nausea and fatigue not energy woman but maximum Yoga helped through the nausea fatigue, stress also. Because of this loosening effect on the body, it is important to modify one's Yoga practice. Modifying one's Yoga practice in the first trimester can seem a bit odd to some since to outsider, there is little visible physical change, but the body is undergoing huge changes. There are already tremendous hormonal surges that affect the mother to be. The focus should be on implantation of the fetus and proper attachment of the placenta, while not over taxing the fatigued body. This stage of pregnancy is considered the most delicate.

Prone poses: Certain bellies down poses are fine like Bhujangasana (Cobra pose) as long as the practitioner is grounding the public bone and elongating through the lower belly is not getting direct pressure. However poses like Dhanurasana (Bow pose) and Salambhasana (Locust pose) both put direct pressure on the uterus and should be avoided.

Pranayamas: Avoid Pranayamas that involve breath retention and deep forceful movements of the belly like, Kapalabhati or Bhastrika (bellous breath). Alternate nostril breathing is fine as long as do not add retention. Ujjayi breath should not be practiced if the mucus membranes are swollen causing stuffiness. Most laboring woman breathe in through their nose and out through their mouth. Since the ne of

the focuses of prenatal Yoga is to help prepare for labor, practice mouth breathing in their Asana practice since it will be familiar to them for their labor and birth. This may seem like quite a long list of poses to avoid during first trimester but there are still many amazing poses to enjoy. This may also be a great time to explore restorative poses, especially is suffering from morning sickness and fatigue. It still going to non-prenatal Yoga classes during first trimester, find a teacher that is trained in the contraindications of pregnancy.

Pregnancy is a physiological stress posing undue physiological demands on the mother and fetus. It has been proved that alternative therapies have been effective for reducing pregnancy related back and leg pain, nausea, promote normal labor, depression and cortisol levels and the associated prematurity rate. Some woman feels uncomfortable with the changes to their body and appearance that occur in pregnancy. This can be very common for some, however, resentment or anger can from a significant emotion in their pregnancy. Often this is due to the physical symptoms and changes that may be talking place – her example extreme nausea.

Occasionally during pregnancy or shortly after child birth a woman's mood can become elated or confused (psychotic) rather than low or depressed this is rare but if it occurs it can develop rapidly into postpartum psychosis symptoms may include confusion, unpredictable behavior and hallucinations. Domestic abuse is something rarely talked about or linked with pregnancy. However, the strong ranges of emotions experienced in pregnancy mean that domestic abuse is more likely to happen than at other times. Pregnancy is an exulting but emotional time for most women, often with changing pregnancy behaviors it is important to talk your feelings through with someone if anxious or low. To ensure get the support you need. Pregnancy is thought by so many people to be a time of happiness and excitement but the reality for most women is that pregnancy is a mixture of ups, downs and other extreme emotions.

The eternal mother, big with child is the archetypal image of fertility, abundance and productivity, and the state of pregnancy is the primary symbol of creative consciousness and optimism. Although such a common – place, pregnancy is a total

experience, a special condition, a forceful example of the intimate connection between body and mind. It is a time when it is extremely important that the various dimensions of a woman's being are in harmony.

The practices of Yoga promote optimum health of body and mind. Unifying a mother's physical, emotional and spiritual growth with that of her child. The regular practice of Yoga before conception is the ideal preparation for pregnancy. The mother to be will have gained flexibility and suppleness from the practice of Asanas, Pranayama ensures that she is charged with vitality enough for two, and meditation promotes the serenity which is for two, and meditation promotes the serenity which is traditionally associated with approaching motherhood. More importantly, the practice of Yoga by both parents will enable them to develop as fitting hosts for a child of more than ordinary spiritual capacity, it is possible for a child to be born with partial or total awakening of Kundalini. Such individuals are spiritually developed from birth itself and are able to make great contributions to humanity. Such children are rare and rare also the dedicated parents who are able to bring them into the world, yet we should never forget that the possibility is there. The spiritual preparedness of the parents is an overwhelming factor in the conception of every child, whose consciousness will be moulded and fed by the spiritual essence of the parents.

Preparatory practices

Yoga can be of great value during pregnancy, even for beginners, who will find most of the practice well within their capacity. For successful pregnancy and delivery emphasis should be placed on the development of the following areas.

Stomach muscles: Strength in the abdominal region will ensure that the baby is carried well, assisting proper development. During delivery these muscles are most important in pushing the child from the womb. The most important Asanas for this area are sputa Vajrasana, Shashanksana, Ushtrasana, Hansasana, Matsyasana and the Shakti bandha series.

Spine: A strong, healthy spine is necessary for the proper functioning of the nervous system and general flexibility. A strong spine will prevent the drooping shoulders often developed during pregnancy because of the extra weight being carried. The practices most recommended for the spine are sputa Vajrasana, Marjariasana, Vyaghrasana, Ardha- matsyendrasana, Paschimottanasana, Bhujangasana and Surya-namaskara.

Back Muscles: The extra weight of the child will also put a great strain on the back muscles, and added strength in this area is a great advantage, Bhujangasana, Paschimottanasana, Halasana, Sarvangasana, Shashankasana and Sputa vajrasana are very beneficial.

Pelvis: A relaxed flexible pelvic area makes for easy childbirth. Marjariasana, Shashankasana, Vyaghrasana, Matsyasana, all squatting poses, siddha yoni Asana and other crossed legged poses are most useful in this respect.

Asanas throughout pregnancy: During the first three months of pregnancy, the program is preparatory Asanas may be continued as usual, but some adjustment will be required after this time. Time beginning of the fourth month marks the time to stop Asanas involving strenuous upward stretching or violent stomach constrictions. Sirshasana and Sarvangasana are usually discontinued or this time, but they may be replaced by Pranamasana and Jalandhara Bandha respectively.

From the sixth month both forward bending Asanas the Paschimottanasana and extreme backward bending Asanas (Ushtrasana) become increasingly difficult. Supta-vajrasana and squatting Asanas are to be avoided from this time if there is any tendency to premature delivery or to prolapse. The Pawanmuktasana series is used at this time, where the muscles and joints are all thoroughly exercised in a way that ensures maximum flexibility and optimum blood circulation, with a minimum of energy expenditure. Squatting postures should still be practiced for loosening the hips and toning the pelvic floor. Kali-Asana is a simple squatting position used in natural childbirth. In order in practice this Asana during delivery, a woman must be able to squat with both heels flat on the ground for ten to fifteen minutes and be

able to rise smoothly and easily once the child's head has emerged. There are numerous physical and emotional advantages to using Kali Asana for delivery and various squatting Asanas provide ideal preparation. They include crow walking, Chopping wood and Namaskar-Asana, and may be continued throughout pregnancy along with Marjariasana, Kandharasana nad Pranamasana.

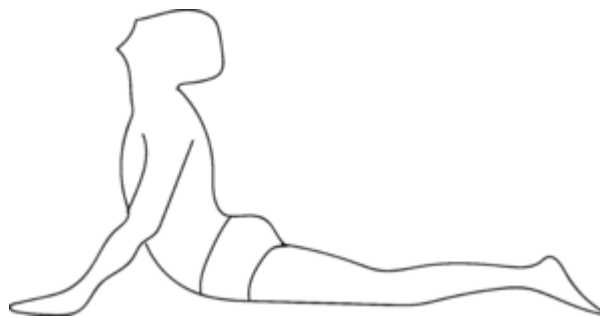
Sitting in cross-legged Asanas such as Sukhasana, Swastikasana, Ardha-padmasana, Padmasana or Siddhayoni Asana is recommended throughout. These avoid circulation problems in the legs and swelling of the ankles that frequently develops in later pregnancy and after sitting for long periods of time in chairs. In the final months sitting cross legged helps to reduce the natural sensation of body heaviness.

Kali Asana, the squatting pose adopted for delivery by women in traditional cultures. It is the most effective posture for the later stages of labor and delivery. For several decades, modern women have usually given birth lying on the back with the legs raised and knees apart. This is especially true of sedated, hospital births where the mother's ankles are usually supported in braces above the delivery table. In this position, the birth canal faces horizontally and upwards, requiring women to labor against gravity. This requires considerably more muscular effort than a squatting pose, and further energy is misdirected, going to waste in the back and leg muscles. In Kali Asana the birth canal and pelvic floor face downward, taking advantage of gravity and apana shakti, the downward flowing energy of the pelvis. This squatting position enables a woman to bear down with great efficiency, force and control, with every contraction of the uterus. Labor is completed more quickly. With adequate Yogic preparation, a woman can deliver easily from Kali Asana, requiring only nominal guidance and assistance from the attendant doctor or midwife. Kali Asana enhances the mother's physical and spiritual participation in the birth. She partakes of the confidence and strength of goddess Kali, and the birth becomes a powerful self-expression, a ritual of attainment through right exertion. In most delivery wards, women are encouraged to deliver on their backs because this position makes it easier for the doctor or midwife to assist the birth. Thus although

kali Asana is very effective for delivery ultimately it is best to decide on the position of birthing in conjunction with your doctor/midwife rather than insisting on kali Asana if they are not agreeable to it.

Asan Methodology

Bhujangasana: One should keep one's hands and feet in normal position. One should slide the chest forward and raise the head and shoulder. After this one should straighten the elbows, arch and the bend like a cobra. During this posture, the hip area should be in contact with the floor.



Bhadrasana: One should sit in Dandasana and slowly bend the both knees and try to touch heel to genital area. Then should catch both feet with hands and holds the posture for a while. During the practice one should inhale exhale normally, one should focus on pelvic region and feel the peace of mind and try to place the buttocks on the floor.

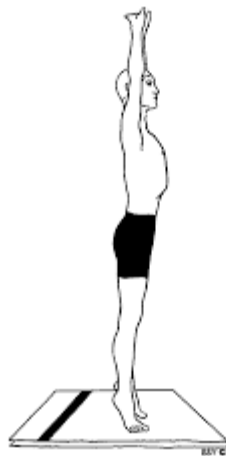


Margariasana: One should stand in Vajrasana then then bend forward. One should place palm on the floor, during inhalation upside and should make curve through thoracic and lumbar region, then during exhalation and try to touch chin on neck region (Jalendhar bandh/chin lock) and try to make the curve upside. During whole

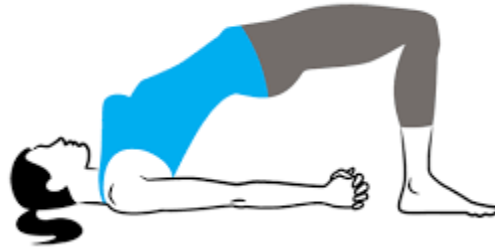
practice awareness and breathing process work simultaneously and one should focus on spinal movement.



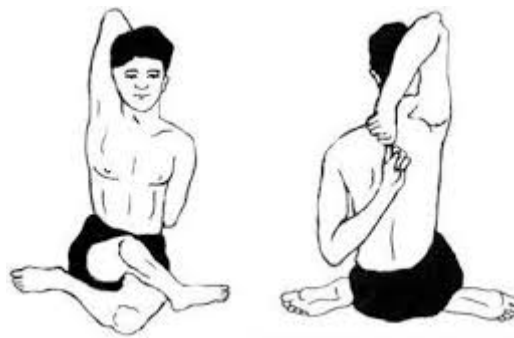
Tadasana: It is a posture of standing series. One should stand up right then raise hands top of the head, cross palm, put on the head then stand on the toes and raise the cross hands simultaneously and stretch body completely. One should inhale while raise the hands and toes and exhale put hands again and relax the toes. If fold for a while then inhale exhale should be normal. One should stretch whole body inhale-exhale should be normal while hold the Asan from on one point.



Bridge pose: One should lie down on the spine position then Bend knees foot should be placed near the buttocks. Palm besides the buttocks and then slowly lift the lower beck try to hold body and attain the portion of chin lock or Jalandhar bandh. One should focus on spinal movement while raise the lower back or thoracic. One should inhale and when the relax lower back while exhalation.



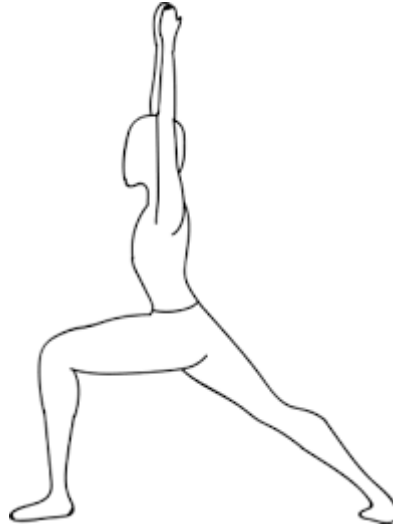
Gomukhasana: One should sit in Vajrasana, then put right knee, on the left knee, and then raise right hand and put palm between both shoulder and catch with left hand. One should try to hold the posture for a while .Inhale exhale normal during the whole practice.



Trikonasana: One should stand straight apart the leg with distance of (one & half feet approximately). Hands should be raised on shoulder level. One should inhale and then bend left and exhale. If hold for a while breathe should be normal. One should perform this practice with both sides.



Veebhadrasana: One should stand straight and then apart the leg from front leg from knee and should made the angle of 90, other leg should be erect and stretched completely One should keep both the hand in raised position on shoulder level.



Vipareetkarni: One should lie on the floor on spine portion, then slowly raise leg and palm should place on back and with the support hand raise the back upside and try to straight body at 90 degree angle. One should inhale exhale normally.



Kashtha takshasana: One should sit in crow pose, then apart the knees in sitting portion and lock hands and raise above the head and with forcefully exhalation. One should throw locked hand on floor. One should repeat this practice from both sides.

Pranayama: The various Pranayamas are most important during pregnancy, ensuring efficient removal of waste products and plentiful supply of oxygen for both mother and child. Pranayama purifies and calms the nervous system to induce a feeling of pleasant wellbeing. Shastra tells us that during the first three months the

developing child has no Pranic supply of its own. During this time the baby is completely dependent on the Prana of its mother. It is therefore extremely important that you practice plenty of Pranayama during the early months of your pregnancy.

A suitable program would include deep Yogic breathing, Sheetalī and Sheetkari, Kapalbhati, Bhastrika and Nadi Shodhana, if possible, these practices should be repeated in the evening. At the end of the third month, the Panchapranas begin to operate in the child's body, and he is therefore endowed with his own Pranic resources. Nevertheless, the mother should continue her Pranayama to ensure abundant energy for them both, as a means of maintaining lightness in her own body and mind, and as preparation for delivery room. Around mid-term, the growth of the baby enlarges the uterus to such an extent that the diaphragm is pushed upwards, resulting in a sensation of shortness of breath. At this time, continuation of deep Yogic breathing is helpful. Kalalbhati may be stopped and Samavritti Pranayama with its short ratios, may be introduced. Bhastrika may become difficult around this time, but should be continued even if in modified form. Nadi Shodhana is the easiest and most satisfactory Pranayama for this time.

As pregnancy progresses one should emphasize the relaxing and invigorating aspect of Pranayama, learning to harmonize the breath with the feeling and movements of the body to clarify the mind. At the actual time of birth this harmonization of breath, body and mind enables a woman to link the rhythm of the breath with the contractions of the uterus, allowing her to control the labor and maintain an exhilarating awareness throughout. Rhythmic breathing also helps to minimize fatigue and to avoid fear and pain. There are four types of breathing used during delivery -

1. Deep Yogic breathing at the beginning of contraction
2. Bhastrika as the contraction peaks
3. Normal breathing between contractions
4. Antar kumbhaka (inner retention) while pushing in late second stage

As the labor begins, tune into your breath with deep Yogic breathing, reflected in the rising and falling of the navel. Then, as the contraction begins to tighten, start bhastrika Pranayama (rapid panting). Here, however, it is advised to make a modification to classical Bhastrika and, rather than breathing through the nostrils, we practice panting through the open mouth. As the contraction passes, allow the breath to flow in naturally – a long smooth inhalation – and use the outgoing breath to take out the lightness from the body on exhalation. Then allow the natural breath to flow without control, but with awareness on the feeling at the navel. With the first stirrings of the next contraction, deepen the breathing until the full Yogic breath is established then repeat the cycle. This pattern of breathing continues into transition where one must temporarily resist the urge to bear down and push prematurely. This can be controlled by transferring awareness from the navel to the centre of the chest, and focusing the mind on the feeling of lightness induced by Bhastrika.

In second stage labor you will find the panting breath almost continuous. This is the time to assist the baby by surrendering to the desire for pushing, and this is best facilitated by holding the breath while you exert maximum force. A rapid deep expulsion of breath will follow, and bhastrika will be spontaneously resumed. Throughout delivery it is important to relax completely between contractions, with special emphasis on relaxing the muscles of the pelvic floor and perineum. Clear, precise location and control of these muscles will have become easy if you have been practicing moola Bandha during pregnancy, and by using the rapid rotation from Yoga Nidra the whole body will relax readily. If the mother is sufficiently strong and healthy, she has much to gain from giving birth without the use of anaesthetic. The drugged deliveries that have become standard unfortunately exclude the mother from conscious involvement in the birth, depriving her of the opportunity for a fresh spiritual awakening.

Spiritual Nourishment

In early pregnancy the developing embryo is still just a cluster of new cells in the womb, without any individual existence apart from the mother. With the inspiration

of the Panchapranas in the third month, the developing baby is endowed with its own source of vital energy and attains a physical individuality. In the fourth month the Jiva enters the physical vehicle being prepared for it, and from this time the unborn child has its own awareness, its own Atman. From this moment, a mother is carrying an individual with his own unique spiritual endowments and spiritual potential. The mother then has to nourish the child not only physically, but also spiritually through sharing the purity and power of her own consciousness. The wise have always seen that the basic fabric of a child's spiritual personality is woven in the womb, and this knowledge has been passed down to us through the Shastras, in stories like those of Prahlad and Parikshit. The father of Prahlad, Hiranyakashipu, was a demonic dictator, a tyrant who suppressed all the natural freedoms of his people, especially their freedom to worship. While carrying Prahlad, his mother left the court of her evil husband and passed her confinement in the ashram of the sage Narada who instructed her in the spiritual truths and in the special glories of Lord Vishnu. Prahlad, though still in the womb, also shared in this initiation, and even in the face of his father's fury, he was a staunch devotee of Lord Vishnu from early childhood. Prahlad's devotion to Sri Hari endowed him with such inner strength that he became instrumental in the overthrow of his father's tyranny and later attained the highest realization. The life of Parikshit was also guided by experience in the womb. After the war of Kurukshetra, Aswathamma sent a missile to wipe out the entire Pandava progeny – born and unborn – particularly aimed at Uttara who had conceived Arjuna's grandson. In fulfillment of his promise to Kunti, Sri Krishna took the form of a point of light and entered the womb of Uttara. The baby in the womb who had felt a great heat approach, suddenly felt cool. He saw a light revolving around him, protecting him from the scorching missile. This child grew up to be a righteous king, well loved by all, and he became the instrument for the transmission of the Srimad Bhagavatam. He was called Parikshit – one who searches – for throughout his life he was searching for the light which had protected him before his birth, the light that he ultimately came to know as Sri Krishna, personification of love and light.

Tales such as these are age old reminders of the importance of blessing and gracing our children even before they enter the world. Today pediatricians and psychiatrists are also of the opinion that some qualities of personality may result from the specific environment of the child before birth. The chemical aspects of the uterine environment, particularly the correct proportions of all the necessary hormones are dependent on the health and emotional welfare of the mother. It is not now possible – and it may never be – to distinguish the effects of the pre birth experience from natural genetic inheritance. However, it is a matter of fact that the health and mental attitudes of the mother are reflected in the development of the child. Illness and nervous tension in their mothers definitely have an adverse effect on babies, before as well as after birth.

In this regard, Yogic relaxation and meditation practices are most important. Because of the many subtle changes in the body pregnancy can be a time of emotional vulnerability for many women, with cravings for strange foods, intense dreams sudden depressions or tears without reason. Such feelings are not only exhausting but they can be of such intensity that they further disturb the harmony of the body. There are many Yogic relaxation techniques that can be used to minimize emotional stress and to create a harmonious environment for the coming child. The child in the womb is protected from, but not impervious to the outside world, and it particularly sensitive to sound. The baby's heart beat will jump at an unexpected and loud noise, and will register the ringing of bells or the singing of lullabies. One of the most constant and dominant factors in the baby's uterine environments is the reassuring rhythm of the mother's heartbeat.

When a mother practices Mantra Japa (repetition of a Mantra) she is adding another dimension to the baby's sensitivity to sound – a spiritual dimension that will evoke a resonance at the very core of the child's consciousness. Mantra Japa and Dhyana allow a woman to enter the depths of her being where her consciousness merges with, and may exert a positive influence on, the consciousness of the growing child.

Yoga Nidra

Yoga Nidra is one of the most flexible meditation techniques in Yoga, in that it can be practiced virtually any time of day, and varied in duration from twenty minutes to one hour. It is practiced lying down rather than in a classical sitting Asana. These characteristics are very advantageous for practice during pregnancy. Yoga Nidra is generally practiced in Shavasana (lying on the back) but many women find this makes them short of breath, especially later in pregnancy. In this case, Matsya – kridasana is recommended as an alternative. In this Asana you lie on one side with one leg straight, while the other (upper) knee is bent and supported on a cushion so that there is no pressure on the abdomen. This is a favorite position of doctors for delivery, and a pose which many people spontaneously adopt for sleeping – a very comfortable alternative for expectant mothers. At a time when women are especially sensitive to their bodies, this technique uses relaxed awareness of the body to induce relaxation of the mind. Once this is established, a series of symbols and images is evoked, to be viewed with the detached awareness of a witness. This awareness is vital to Yogic growth and as it increases in power and scope, positive emotions of love, peace and harmony will permeate your life. These provide the ideal emotional climate for the baby's development and are the perfect protection one the child is delivered from the womb. This attitude of witnessing is also important during childbirth, for it breaks the mother's identification with her bodily pain and helps her to be more fully conscious of the events taking place.

The visualization sequences in Yoga Nidra are especially useful in facilitating the mother's subtle perception of the growth of the child in her womb. In the supersensitive and expansive state of Yoga Nidra, the mother is not only more in touch with herself, but also with her child. Conscious realization of the communion transforms the time of pregnancy into an opportunity for the mother's spiritual growth and rebirth.

Postnatal Care

During pregnancy the body is undergoing constant change, and this continues after the delivery for some time – but in reverse, within a few hours of the birth the body will begin to return to its normal condition. Mild contractions of the uterus will be felt as the womb begins to return to its normal shape and size. At the birth, the uterus usually weighs about one kilo, but within two weeks it shrinks back to around 350 grams. Breast feeding has a positive effect by stimulating these contractions which are sometimes called ‘after pains’ although they are rarely painful. For about ten weeks after the birth there will be a continuous discharge from the womb, called Lochia, and within six to ten weeks normal menstruation begins again if you are not breast feeding. Mothers who breast feed their children will usually have first ovulation around the twentieth week (fifth month) after the birth. and normal menstruation will return around the twenty-fourth week (six months). For a day or two after the birth the mother may experience some hindrance in urinating or even involuntary urination while coughing or laughing. This is due to the stretching and slackness of muscles in the pelvic floor, and is more rapidly overcome where the mother begins to take short walks and to resume some mild Yoga practice.

Depression

For the first few days after the birth, the breasts produce a substance called colostrums. Then, around the third or fourth day there are hormonal changes which cause the milk to flow. As a result of these hormonal changes, every mother finds she feels very low emotionally for a few days. She will usually weep, she might have nightmares, she feels anxious that she is not really mature enough for motherhood, or even that she does not want the baby after all. These feelings usually last only for a few days, but for some women this depression persists for weeks or even months. Postpartum depression is usually attributed to hormonal imbalance after delivery, and in such cases it is alleviated or overcome by a regular practice of Asanas and meditation. However, even mothers who adopt their children may suffer from this problem, which would suggest that the main cause is a

woman's insecurity and feelings of inadequacy. Women who suffer in this way frequently doubt their ability to be competent, loving mothers.

Having someone to talk to, someone who can share her feelings is a great help to a woman at this time, and where a woman receives help and reassurance from her family, friends and other mothers, recovery is more rapid. Since negative feelings are exaggerated by fatigue, meditation should be practiced to compensate for lack of sleep, and to allow the mother to face her fears rather than suppress them. Some time put aside every day for meditation will help a woman to find that oasis of peace within herself, that place where she is always strong and naturally loving. This daily affirmation will provide her with the ultimate reassurance to help overcome her fears.

Women who have been practicing Yoga regularly find that their recuperation after delivery is surprisingly rapid, and their susceptibility to the 'baby blues' is minimized. Within a day or two after delivery, Yogic breathing and Nadishodhana Pranayama can be recommenced, even in bed. If there are no complications, the antirhematic series of pawan – Muktasana can also be resumed. Moola bandha is also valuable at this time to re-establish muscle tone in the pelvic floor. Most of the changes taking place in a woman's body take place within the first two weeks of delivery, and after two weeks the new mother can safely resume all the Asanas she had practiced before pregnancy. This should be gradual in the beginning, commencing with the second (anti-gastric) series of Pawanmuktasanas then the Shakti bandha Asanas, lateri resuming the classical Asanas at the rate of one or two a week Moola bandha and Uddiyana bandha should be practiced to tighten the abdominal muscles and restore the tone of the reproductive organs. During her pregnancy and in the first few months with the baby, a new mother has so much to gain from the support of other women who are already mothers. This is a time when grandmothers and other 'elders' come into their own, to share their accumulated experience and wisdom in every culture there are traditions and rituals of childbearing, and we should not be too hasty to dismiss these as superstitions.

In India, for instance, it is the custom for a woman to return to her mother's home during the last three months of pregnancy and to remain there for at least six weeks after the birth. This might seem like an unnecessary fuss but the custom continues to this day because it brings so many benefits. In her mother's house, the expectant mother is freed from the daily routine of housekeeping and is therefore free to take the extra rest she requires in late pregnancy. She has the care and guidance of all the other women of the house who make sure that she follows a proper diet, and instruct her in the use of the various herbal preparations (Kashaya and lehas) that are used in India for the health of both mother and child. In this supportive atmosphere, away from the normal demands of running a home, the new mother has time for contemplation and meditation for her own well being and the spiritual nourishment of the child.

After delivery there are further time – tested practices to help a mother regain her balance, physically and emotionally. There is a routine of massage, baths and herbal supplements for both mother and child. These early weeks in her maternal home allow the new mother to learn all the routines of caring for her baby, while providing her with the opportunity to get to know her child. Before she resumes her full responsibilities in her own household, even the most timid has confidence in herself as a mother. and fears and doubts given way to a real pleasure in being with the child. The customs of India have their counter parts in every society. This information is the heritage of grandmothers and great – grandmothers who depended on such knowledge in the days before hospital deliveries were common, and it is up to today's women to claim this heritage as their own before the old wisdom dies out. While it might not be possible to follow all the old advice in detail, we can gather and preserve its essence. For instance, it is a custom in India that after the bath, a tiny coal fire is lit and sprinkled with a mixture of herbs and spices (samrani) to give an aromatic smoke. The new mother stands astride this fire to dry her hair, which is further purified by the smoke, and at the same time the warm air from the coals rises up and causes the uterus to contract, so that it soon regains its proper shape and size. In place of this custom we can achieve the same

effect by the regular practice of Moola bandha, commencing a few days after delivery. The original customs may be cumbersome today, but the essence is sound. If we look carefully, we will find that the essentials of the old customs are to be found in refined form in the practices of Yoga, which will meet not only the physical needs of pregnancy, but also spiritual ones. Every time a woman gives birth with the help of Yoga, she unites all the resources of her body, mind and soul in a total involvement with the primary forces of life and consciousness, both of which are individual and universal. Birth is the primary initiation for the child, and provides a chance for spiritual renewal for the mother, for the natural heightening of one's faculties during such an event open the doors to cosmic communion.

After the pain, so intense it was no pain, with my new born son on my breast, there came the peace – I floated on a still, clear take of deep blue peace. And like the velvet, silent night descending gently all around, there came an understanding of the pain and the purpose, and I knew why it is we are born. My life has been blessed ever since.

Practice Program

First 3 Months: Continue the Sadhna one have been doing so far, If you are just now beginning, practice the Sadhana 'for beginners' given at the end of this book in either case, add the following practices :

Asanas:

1. BhujangAsana
2. Pawanmukta series 1nd & 2nd
3. Butterfly & BhadrAsana
4. Margari asan (Cow & Camel poses)
5. Viparita karani
6. Tadasana
7. Virabhadra Asana

8. Bridge Pose

Pranayama: Sahaja Pranayama (54 rounds), simple Bhastrika Pranayama (5 rounds/ rest 5 rounds).

Shatkarma: Kunjal kriya (minimum twice weekly)

Beginning the Fourth month: One should stop your previous Sadhana and commence the following practice -

Second Trimester Asanas

1. Virabhadrasana
2. Triangular pose (various)
3. Gomukhasana
4. Samkonasana 30°, 60°, 90°, Leg up

Third Trimester Asanas

1. Markatasana
2. Butterfly Pose
3. BhadrAsana
4. Kasttakshalana
5. Vakrasana

Shavasana, Titali Asana (100), Namaskar asana (10), Chakki chalan asana (10 each side). Kandharasana (hold as long as possible), Marjariasana (15), Kandha chakrasana (10 each side sitting in sukhasana or siddhayoni Asana), Greeva sanchalana (10)

Pranayama: Bhastrika Pranayama (7 rounds), Nadi shodhana (10 rounds / rest / 10 rounds ratio 1:1:2)

Shatkarma: Laghoo Shankhaprakshalana (once or twice weekly)

Other: Yoga Nidra (before lunch or at midday)

Mantra japa (morning and evening). matsyakridAsana (for sleeping and relaxation).

After delivery: Commence the following

Asana: Pawanmuktasana part 1 (10 each side)

Pranayama: Sahaja Pranayama (54 round), Nadi shodhana Pranayama (10 rounds, ratio 1:1:2)

Bandha: Moola Bandha (simple, 100 times), Moola Bandha (with breath, 10 times)

Other: Yoga Nidra

After Birth: Practise as follows:

Asana: Pawanmuktasana part II (5 times each increasing to 10), chakki chalan Asana (10 each side)

Bandha: Uddiyana bandha (5 rounds), moola bandha (simple form, 100 times), moola bandha (with breath, 10 times)

Other: Yoga Nidra

Yoga Practice: Contradictions & Special Considerations during Pregnancy

There are several positions and Yoga practices, which are strictly contraindicated for pregnant women. There are also Asanas and techniques which are not strictly forbidden, but not really recommended, and therefore we try to avoid them in a Yoga practice during pregnancy, just in case.

Contradictions are always depending on a few factors: stage of pregnancy, individual woman, other medical conditions during or from before the pregnancy, level of a Yoga practice, etc. As Yoga teachers we have a choice to prepare programs either for different stages of pregnancy, or to exclude all of the contraindicated positions and prepare universal class for all stages of pregnancy. Yes it is possible, and it is very practical as you don't need to remember who is in which stage of pregnancy as everything is safe for everybody. It is important to understand that as Yoga teachers we need to inform, warn and educate, but the final

decision of how to practice Yoga during pregnancy belongs to a pregnant woman. We need to honor this. For many women with a strong Yoga practice (Ashtanga, Vinyasa, Hot Yoga) it feels good – at least at the beginning of pregnancy – to continue their practice, and it is usually fine with small adjustments to do it. As pregnancy progresses they might get ready to join a prenatal Yoga class or at least shift to a gentler Yoga practice. It all depends on a woman, her practice and how she feels during pregnancy.

Deep twists are not recommended from the moment of conception, unless we perform “fake” twist (twist to the opposite side) or natural range of motion, deep twists compress and constrict the uterus and the baby. Nature regulates it in its way – twisting usually doesn’t feel comfortable (if possible at all!) especially during late phases of pregnancy

Lying on the abdomen/ prone positions: From the beginning of the second trimester lying on the belly doesn’t feel comfortable. Although it might be still comfortable for women in their first trimester Yoga teacher should avoid offering this option as not the best for prenatal Yoga anyway. We can easily replace slight backbends from prone to sitting, standing or supported, soothing will be missed in the practice, yet we avoid pressing abdomen. Many women complain about pressure in the abdominal region from early weeks of pregnancy.

Core exercises: Abdominal strengtheners such as crunches, sit-ups, or flexion of abs, etc. are not recommended in any phase of pregnancy. There are different opinions about this point, yet in prenatal Yoga we recommend to focus on strengthening core in a different way. “Opposite limbs extension”, standing postures, working with Transversus Abdominis without any pressure on the uterus, etc. would be the choice of prenatal Yoga teacher.

Deep backbends: During pregnancy the belly is stretched by definition, and so we don’t want to over stretched the abdominals. Postures like wheel or even camel are considered unsafe and too strong, especially that many women in prenatal Yoga classes are also beginners! We want to make sure that there is no heavy load on the

lumbar spine, and since abdominal muscles cannot easily oppose this move we replace deep backbends with their gentler versions, just nicely stretching chest, gently relax iliopsoas, and are safe for the spine, pelvis and the baby.

Jumping, jerky movements: Jumping and rapid movements can cause the shock for the body, heavy load on the joints (already in challenge!), and make a student unstable and prone to injury. There is no need to jump back to chaturanga during pregnancy, especially that a woman can hit the belly collapsing onto the ground.

Pranayama: Holding breath is contraindicated for each stage of pregnancy. Any Pranayama with retention of the breath shouldn't be performed. Holding the breath increases pressure on the pelvic floor and abdominal muscles, and can cause discomfort including dizziness, etc. Also Ujjayi is not recommended during pregnancy as it is a strong and heating breath, as well as it can lower the blood pressure causing the feeling of light-headed or dizzy.

Nauli Kriya, Uddiyana Bandha: First contraindication comes from the fact that both techniques require the breath retention. Strong contraction of belly is not recommended as well, so we find the unsafe for prenatal Yoga practice.

Overstretching: The hormone of "stretch" – Relaxin begins being produced at conception. As the ligaments, tendons and muscles soften in preparation to birth many women experience more flexibility than from before the pregnancy. This causes natural risk of overstretching during a Yoga practice. We recommend that women do not stretch to their maximum, or even reduce their limits to 80-85 % of their flexibility from before the pregnancy. Injury during pregnancy is the least which we need!

Mulabandha: The root lock can be practiced throughout almost all stages of pregnancy, because it helps to prepare pelvic floor muscles for healthy pregnancy, deliver and post partum recovery. It is believed that the risk of tearing during the labor decreases thanks to practice. Mulabandha keeps the pelvic floor strong and controlled, helping to support the baby's weight, especially on the late stages of pregnancy.

Between weeks 38 and 42 we shouldn't practice and teach it anymore as it is time to let go of any tension in cervix and leave preparation to birth to the Nature. The cervix needs to soften and open before pregnancy, so mulabandha would disturb in this process.

Inversions: There are many different opinions about Inversions during pregnancy. Some doctors say it should never be done while you are pregnant, other finds even benefits of inversions. The big part of experts believe that even if a woman performs inversions it should be, only until the end of the second trimester. There, was a discussion on the risk of turning a baby into the breech position due to inverting the mum's body, but some doctors didn't accept this argument either. I always repeat that while bringing legs up against the wall, or make semi-inversion like Downward Dog or forward fold seem to be totally fine and beneficial, pure inversions make no bigger sense during pregnancy (neither for a baby, nor Mum-to-be), cause we make inversions in Yoga mostly for total body control and balance, using all the core muscles and strength, while during pregnancy you cannot build your own inversions as the balance is temporarily changed, and you cannot work with your core muscles either. I replace inversions with semi inversions and use other benefits of inversions offering different positions instead. In this way everything is safe and there is no injury, neither need for struggling. The risk of falling during performing inversions is for me the most important argument not to teach them at all, and replace them with stable and mild asanas.

Lying on the left side: To avoid the pressure on Vena Cava we switch Savasana into the left side (Baby Krishna pose). Lying flat on the back is also not recommended and usually not comfortable, therefore we lift the chest (or hips) up, to avoid the pressure on Vena Cava.

Round ligament: Pain defined as "round ligament pain" usually occurs during the second trimester as the baby grows up and the uterus and the belly need to "grow" (stretch) as well.

Some women experience the spasm or cramps of round ligament. Warm bath can help, as well as lying on the left side with pillow underneath the belly, pelvic circles or cat & cow stretches, reduce standing / walking might help.

Sciatica: The irritation of the sciatic nerve is quite common during pregnancy. The sciatic nerve is the largest nerve begins in the root of the spinal cord (lower back), and extends through the buttocks to the lower limbs. At pregnancy the weight of the uterus presses on the sciatic nerve, and that's the cause of troubles. Symptoms of sciatic nerve irritation are lower back pain (shooting, pinching, burning), going down to your knee on the back side of the leg. It is usually folding forward that aggravates the pain, so in Yoga we recommend to avoid it. But when you perform the forward bend gently and with modification (bent knees, props, straight back and not going all the way down) it should be fine, or even better. Be careful also in positions tilting the pelvis. We always try to encourage students with sciatic problem to explore the body and positions – so that she knows which asanas to avoid, which ones to modify, etc.

Overheating: Overheating the body during pregnancy is not allowed (jacuzzi, hot tubes, etc.). Yoga practice in heated room is considered unsafe. Also fast-pace practice is not recommended, but if one prepare quite dynamic session remind one's students to drink a lot of water (against dehydration)! Balances are great, but during the pregnancy we need to exclude the risk of fall and injury. Balances can be performed only in a safe environment, and with the support of the wall, partner or props. Arm balances are almost impossible in a late pregnancy, and can be quite risky for the wrists. Yet Yoga books for prenatal Yoga are full of advanced Asanas (which tells that all is possible, not all one recommended though).

Yogic Diet

The purpose of food is to increase the duration of life, purify the mind and aid bodily strength. The modern science classified the food on the basics of its function on body as carbohydrates, protein, fat, etc. in the same way the Yoga classing the

food on the basis of its effect on mind as satvik, rajsik and tamsik foods, the Yoga advocates food and mind has direct relations: the type of food talking same type of mind develop, one of the Upanishad (last part of veda) says.

“Yatha khadyatennam, tatha nigadyate mamha’

Which means the types of the mind is depend on the type of food eaten. If one consider scientifically also the food advised in Yoga are very good for good health. The Yogic classifications of food are a below -

1. Satvic food
2. Rajasik food
3. Tamsik food

1. Satvic Food

This type of food is very good for mind, it gives calmness and steadiness of mind. Satvic food increases the duration of life, purify ones existence, gives strength, stamina, health and happiness, the food coming under satvic category are green vegetables, milk and milk products, seeds, sprouted seeds, honey, legumes, fruit, fruit, juice etc. Yoga recommends always talking satvik food to get pure body and mind.

2. Rajasik Food

This type of food stimulates the mind even though it may feel good while eating, but it causes the fluctuation of mind, so it will affect the Yoga practice. Rajasik food also imbalances the mind body equilibrium. The food coming under this category are very hot bitter, sour, spicy, salty or dry foods, tea, coffee, onion, garlic, tobacco, fish, eggs, are coming under this category eating in hurried also considered as Rajasik food.

3. Tamasik Food

These type of food cause laziness and are not good for body and mind the Tamasik food leads towards the ignorance. It may be feeling food some time while

consuming but, this type of food very harmful to the body. Yoga strictly opposes the tamsik foods the food coming under this category are meat, alcohol, tobacco, fermented food. Yogis recommended to take satvic foods for pregnant lady and all these are clearly explained in classical texts of Yoga, the Yoga advise the Mitahar for a person, it has been explained in Hath Yoga Pradipika : one of the classical text of Yoga as below -

Susnigdha madhurabhara Chaturthashavi- varjitaha bhujyate shiva samprityi
mitaharha a sa uchyate. (Halth Yoga Pradipika 1.58)

Mitahar is defined as agreeable and sweet food, leaving one fourth of the stomach tree and eaten (as an offering to please shiva)

This clearly notifies one should not over eat at all, half of the stomach has to be filled with solid food, remaining one fourth one has to take water, and one should keep last one forth tree.

Kalvamlatikshnalavanoshnasheetha shaka
sauveeratailatarshapa madyamtsayan.

Ajadimamsaditaktrakulapinyakaingulashunadyam apathyamahuh
(Hath Yoga pradipika 1.59)

The prohibited food are those which are bitter, sour, pungent, salty, heating, green vegetables, (other than those ordained). Sour gruel, oil, Sesame and Mustard, alcohol, fish, flesh, foods, oily food, cakes, asafetida and garlic - Hath Yoga Pradipika (1.62)

The most advisable food for all lady are good grains, wheat, rice barely, milk, ghee, brown sugar, sugar candy, honey, dry ginger, patola fruits, vegetables, mung and such pulses and pure water. The food advised in pregnancy provides all essentials of body like carbohydrates vitamins, proteins etc. It is also advised in the shloka to take pure water which is very essential for the body.

Pustam sumadhuram, snigdham, gavyam, Dhatuposhanam Manobhilishitam yogi
bhojanamacbaret (H.Y.P. 1.63)

Pregnant female should take nourishing and sweet food mixed with ghee and milk, it should nourish the Dhatus (basic body constituents) and be pleasing and suitable. Traditionally Yoga is being practiced for spiritual progress, but present word Yoga is practicing for the health.

Following the food as mentioned in classical texts is harder in present time but for keeping the body and mind in well we can remember some points while eating -

- Female of should be advised to take the food in the always.
- Female of should be advised to reduce meat consumption. You need not to be vegetarian. But regular talking of meat is not good for health.
- Female of should be advised leafy's and green vegetables fruits more.
- Should always take small mouthfuls should
- Should small chew well before eats.
- Should talk less while eating tury to eliminated all unwanted thoughts and difficulties while eating.

The main reasons for over eating is stress and uncontrolled senses. Yoga reduce stress and helpful to control senses. If one practice Yoga with full dedication, one will surely learn and understand which type of food is good for body.

Some Special Problems and Yogic Upachar

Morning sickness

During the early part of pregnancy most women experience a strong feeling of nausea, perhaps with actual vomiting, usually in the mornings, Together with this discomfort comes dullness and lethargy, and a loss of appetite that may develop into an aversion to particular foods and cooking odors. Morning sickness may occasionally last for several months, but most women are heartened to know that it generally stops spontaneously towards the end of the third month.

In the meantime, the intensity of this problem can be reduced with attention to diet and the practice of Kunjal Kriya. One should avoid oily and heavy food at all times, especially at night, and try to eat the night meal between 5.00 P.M. and 7.00 P.M. In the morning rather than suffer unnecessarily for some hours, practice Kunjal Kriya (stomach washing with salt water). Kunjal cleans the stomach and puts a stop to nausea. It stimulates the appetite and digestive fire. You will feel fresh and clear mentally, and there will be abundant energy and optimism to begin the day. Since vomiting frequently occurs spontaneously during early pregnancy, this conscious vomiting cannot be regarded as harmful, especially if you remain relaxed and don't strain.

Constipation

As the baby grows heavier and changes position in later pregnancy, many women develop constipation, which is not only discomforting in its own right, but increases backache and lethargy. Adequate roughage in the diet and drinking plenty of water will help, but not completely eliminate this problem for which Laghoo Shankhprakashalana is recommended. The Shatkarma practice of Laghoo Shankhprakashalana is a method of cleansing the entire digestive system with emphasis on clearing the bowels. It is practiced by taking six glasses of salt water, interspersed with Asanas, This practice does not involve stomach contractions and the Asanas recommended are all safe and possible to perform even in later pregnancy. Laghoo Shankhprakashalana will definitely eliminate constipation, creating a feeling of ease and lightness in the body. It should be practiced once or twice a week after the sixth month where the mother shows a tendency to water retention, this may be minimized by drinking a large glass of barley water, coconut water or rice Kunji as the first meal after the practice, and if necessary taking a salt less lunch.

Edema

This is the retention of excess water in the body and shows as a swelling of the face, hands, ankles, wrists or feet. This swelling tends to increase towards the end of the day. Some Edema in pregnancy is normal, especially in the later months, but

it may be minimized by the practice of Pawanmuktasana. The first series of Pawanmuktasana (anti rheumatic) is to be practiced in the late afternoon or early evening, with special attention to the Asanas for feet and legs. This will help to squeeze water from the tissue spaces in the body, improving blood circulation and the transportation of fluid through the circulatory and lymph systems. Kandharasana, a the simple form of Matsyasana, will also stimulate the kidneys to remove excess fluid from the body.

Too much salt is to be avoided, but too drastic reduction of salt is also harmful – it may lead to muscle cramp and interfere with milk production. It is better, instead, to take natural diuretics like tender coconut water, barley water or rice Kunji.

Toxemia

While some water retention is normal, when there is a sudden increase in edema after the fifth month, it could be a warning of toxemia. Metabolic toxemia of pregnancy (MTP) is a serious condition that can occur late in pregnancy, affecting 7-12% of women carrying their first babies and 5-6% of women hearing later children. In addition to excessive edema other symptoms include high blood pressure and protein in the urine. There may also be severe headache, blurred vision and abdominal pain. Toxemia rarely develops to the final stage (which may be fatal) if a woman is under regular medical supervision, and for this reason, if no other, periodic medical check – ups are advisable throughout pregnancy. Toxemia is primarily a problem of poor nutrition, especially lack of protein and B-vitamins. It not only affects women in poor countries where food is scarce, but also women in developed countries who eat too much refined, instant food to the neglect of grains, fruit and vegetables, Toxemia may be systematically avoided by a balanced Yogic diet, which will include vegetables of all kinds, some fruit, some milk or curd, and plenty of whole grains – wheat, unpolished rice, barley (Jowar), millet (Ragi), corn (Makai).

Chapter 6

Discussion

Discussion on Ayurvedic and Modern description of Fetal Development

It can be discussed from the Ayurvedic description of fetal development that entire fetal nourishment is divided into two stages, before apparent evidence of organs or up to three months and after – wards. Before implantation zygote gets its nourishment from exudates of uterine cavity and after implantation but before complete placenta formation through chorionic villi present all over the embryonic surface, which has very clearly been mentioned by Acharya Sushruta that embryo gets nourishment from the channels running all around it. After three months nourishment is through umbilical vessels. It is difficult to explain the attachment of placenta with mother's heart, this might have been mentioned due to the fact that uterus in its full term reaches upto xiphisternum and mostly placenta is attached to the fundus of uterus, thus reaches to very close proximity of heart. However, probably with this very confusion Acharya Sushruta has mentioned that umbilical cord is attached to Rasavaha Nadi of mother. If rasa is accepted as plasma, the clarification can be given that the fine branches of umbilical vessels running in placenta derive the nutrients suspended in plasma of mother's blood.

If the relation of Apara with heart is considered as relation to its function, then it can be explained as in heart, the blood enters from veins, circulates within its chambers and goes out through arteries, similarly in maternal side of apara (placenta) the blood reaches from maternal arteries, circulates within chorionic villies and goes out from marginal sinuses or veins, in other words the circulation of blood in heart and placenta is almost similar, (ii) to pump pure blood in the body and impure blood to the lungs for purification is main function of heart, similarly placenta receives the impure blood from fetus, purifies it and sends it back to the fetus or due to similarity in function the apara is said to be attached to the heart.

Two words Upasneha and Upasweda are given to define the process of fetal nourishment. In explaining these words Indu's version is more logical, because as fetus is dominated by Kapha, naturally it would need more unctuous substance to replenish this Kapha, or in other words simple osmosis can't serve the purpose, thus the word Upasneha probably refers to the selective osmosis, while Upasweda to simple osmosis. Literally Upasneha refers to the absorption of moisture through pores of skin situated in hair roots of the body and Upasweda to osmosis, but earlier explanation is more logical.

The embryo remains in morula stage for 4-5 days followed by blastocystic stage, probably Arunadatta has referred to this morula as a solid mass before one week and Harita has identified morula with Kalala and blastocyst with Budbuda. According to Ayurved Depika philosophy all the five Bhutas are present in sperms and ovum and reach there during conception itself, thus description of their association after twenty five days by Harita is a bit confusing, however, it is just possible that since their functions in terms of formation of different body parts become more conspicuous by twenty five days hence he has given the description.

As all the extremities etc. are already well evident just at 6th week, hence it is difficult to explain the shape of embryo of 2nd month as described in Ayurvedic classics. It is just possible that the authors have described embryology on the basis of expelled products of conception. Normally upto second month before complete formation of placenta the products of conception are expelled in pieces associated with big blood clots and the authors could not visualize fetal parts. The expelled corneous mole might have been the source of description of oval, round etc. shapes described earlier. Third month onwards due to formation of bag of membrane and complete placenta, usually abortion resembles miniature labour, wherein fetus with all its intact extremities may be expelled, thus the authors conceived the idea that these might have developed in this very month.

According to Ayurvedic philosophy the knowledge or perception is the result of interaction between Mana and Indriyas. Since by 5th month auditory reflexes and peripheral sensory reflexes develop to certain extent, hence the authors have

mentioned the enlightenment of Mana. Normally the fetus of twenty one to twenty eight weeks of gestational age does not survive if delivered, however, under specialized care the fetus of even twenty one weeks (400 gms.) i.e. last few days of fifth month can survive, thus the fetuses of twenty one to twenty eight weeks are termed as previable. The description of 'sujivata' by Harita probably refers to this fact.

As by 24 to 25th weeks sensory and motor organs attain some maturity and skin becomes pink so the description of Buddhi and complexion is given. Though lanugo appear in fifth month, however, these are more conspicuous in sixth month, deposition of calcium also starts in this very month, so the classics have described formation of hair and bone. Harita and Chakrapani have described the development of body hair in 4th and 3rd month respectively which is not correct.

There existed a lot controversy about the body part developing first and a good debate ensued. Summing up the opinion God Dhanwantari and Atreya Punarvasu explained that all the body parts develop simultaneously, the logic that being basic supporting structure or abode of various features (Oja, Mana, Atma, Buddhi etc.), the heart comes first is not correct. All the features are interrelated to each other and develop simultaneously (quoted by Charak). He explains further (quoted by Acharya Sushruta) giving the example of sprout of bamboo or fruit of mango, that as the ripe mango fruit all its parts i.e. fibres, pulp, nut and kernel are very conspicuous but are not so when it is unripe and small. It is only time factor which is responsible for this change. Similar happenings are seen in sprout of bamboo (when it grows, bamboo-wood, leaves etc. are apparent but not in earlier stage). Similarly in young embryo all the features inspite of their presence are not conspicuous but are apparent after its maturity.

Any scientific explanation for above description is not possible. However, enveloping of Bija (sperm) by Rakta (ovum) given by Kasyapa is very scientific, because head of sperm enters this ovum and its tail is reabsorbed, thus main part of sperm is practically enveloped by ovum. Harita has mentioned that spleen is

flooded with Kapha, Rakta and Sleshma; Kapha and Slesma being one entity are inexplicable.

Discussion of Yogic Practices helpful in Pregnancy

Bhujangasana

In first trimester of the pregnancy the foetus starts increasing its shape, volume and weight. Because of these developments uterus become bulky and there is increase in abdominal girth resulting into pain and stiffness around the lower back. Females generally enhance their intake due to enthusiasm to provide much more nutrients to the foetus. Because of this females normally gain weight with especially fat accumulation around back and can be much evident around hips.

Bhujangasana can prove best in reliving lower back pain and stiffness. In addition to this, It also improves overall flexibility of the body especially around pectoral girdle. Bhujangasana as can also helps in limiting fat accumulation around hips.

Bhadrasana (Butterfly Pose)

In first trimester of the pregnancy the foetus starts growing and enhancing its shape and volume. Because of this the blood circulating vessels are compressed due to the the pressure of foetus. Muscles starts stretching resulting in fatigue.

Butterfly pose is the one of the important pose in which due to constant feathering of both legs, the blood circulation in the area enhances resulting into reducing fatigue of the area. This pose also improves blood circulation of the body.

Veerbhadrasana

In first trimester of the pregnancy because of the development in the uterus and protrusion of abdomen, generally females struggle to make her balance and stability. Veerbhadrasana is the one of the most important pose which not only energizes the body but also promotes balance and stability. In addition to this Veerbhadrasana also improve circulation and body stamina by enhancing blood circulation .

Bridge pose

This pose reduces the muscle fatigue of abdomen and back. During this pose due to stretching of anterior abdominal wall, intra-abdominal pressure reduces. This helps to release the pressure over compressed blood vessels and allow better better circulation. During this pose the diaphragm is pushed downwards resulting into increase in the volume of the thoracic cavity. Because of the expansion of lungs, its air filling capacity enhances rather technically increasing the total vital capacity of lungs. Because of this body oxygenation level improves and foetus gets more oxygenated blood.

Cat Pose

Because of the development of the foetus in the uterus, the natural curvature of the spine around lumber region affects adversely. This problem increases with increase of foetal size, cat pose is the one of important pose to restore the natural curvature of the spine specially around the lumber area.

Camel pose

During this pose thoracic area of the spine is pulled upword. Because of this there is significant increase in the intra-abdominal area and pressure on other intra-abdominal parts of abdominal.

This pose improves body balance and steady posture, also improves muscles strength of the shoulder, back, calf muscle, ankle. Also resulting into increased space of the thoresic cage and abdominal cavity. Thus, increase Total vital capacity of lungs, intra- abdominal volume and decrease intra-abdominal pressure.

Vipreetkarni

During this pose, the blood drains from lower limb and remain available to central circulation resulting into more blood supply to brain and other important parts. During this pose the blood is more available to the uterus resulting into better foetal growth.

Trikonasana

In the second trimester the pregnancy abdominal bulge is more prominent resulting into much more stress over pelvic muscles. This Asan provide strength and muscular tone to the pelvic muscles. In addition to this, Trikonasan also restricts the deposition the fat around hip area because of stretching.

Gomukhasan

In the second trimester of pregnancy because of abdominal bulging, females usually suffer from backache. This is one of the important pose which relive backache and general stiffness over back, shoulder and neck. In addition to this it also opens chest area which improves air filling capacity of the lungs, subsequently providing more oxygen to the mother.

Kasttaksasana

Because of fully developed foetus the over stretched muscles of pelvic girdle get gradually stiffed. The stiffed muscle of pelvic girdle can interfere with the normal delivery. This posture improves the flexibility of pelvic muscle resulting to the facilitated normal delivery of foetus.

Bhastrika

If we analyse Bhastrika Pranayam in a mechanical fashion then we can say that by performing this Pranayam, one can enhance the Tidal value, Total residual volume of lungs and ultimately the Total vital capacity of the lungs. So the mechanical effect this Pranayam is to maximize the air filling capacity of the lungs.

If we consider Bhastrika pranayam traditionally it is much helpful. During this Pranayam, when person focus on their innerself rather then outerself, this helps to relieve the stress and strain specially cause by the discomfort associated with pregnancy.

Anulom Vilom

Anulom vilom is especially helpful in stimulating the nervous system of the body. so by the practicing of Anulom vilom during first trimester of pregnancy, mother can stimulation her nervous system resulting into better development of nervous system of the foetus.

Bhramri

Bhramri is a Pranayam in which the brain cells and tissues receive mechanical stimulus through vibrations resulting into stimulation of brain. Brain is the seat of master gland which known as Pituitary gland. A number of harmones secreted from this gland, which is not only helpful in the proper growth of the foetus but also help to regulate various hormones secreted from other parts of the body. In addition to this, there are various hormones secreted from Pituitary which are directly helpful in growth and development of foetus and ease the process of delivery as well.

Discussion on Ahar Vihar in Pregnancy

Though Acharya Sushruta has not prescribed any specific dietetic specifically for ninth month, however, in the regimen of eighth month after use of enema continuous use of unctuous gruels and meat-soup of wild animals upto the period of delivery is advised. This indicates that Acharya Sushruta has advised use of unctuous gruel and meat-soup of wild animals in ninth month also.

During first trimester of pregnancy most women experience nausea and vomiting, thus cannot take proper diet. Use of cold and sweet liquid diet and milk will prevent dehydration and supply required nourishment, besides the drugs of Mathura group being anabolic will help in maintenance of proper health of mother and fetus. Fourth month onwards muscular tissue of fetus grows sufficiently requiring more protein which is supplied by use of meat-soup. By the end of second trimester most women suffer from edema of feet and other complications of water accumulation. Use of guksuru a good diuretic in sixth month will prevent retention of water as well as its complications. The drugs of Vidarigandhadi group are diuretic, anabolic, relieve emaciation and suppress Pitta and Kapha, their regular use in seventh month

might help in maintain health of mother and fetus. Most women experience constipation in late pregnancy due to pressure of gravid uterus over the bowels and effect of progesterone. Use of enema in eight month will relieve this constipation, besides this may also affect the autonomous nervous system governing myometrium and help in regulating their function during labour. Tampon of oil may destroy pathogenic bacteria of vaginal canal and prevent puerperal sepsis, besides this tampon may also soften vaginal passage thus help in normal labour. It is just possible that the regular use of tampon might influence autonomic fibres governing myometrium and help in regulating their functions. Besides, this might soften the perineum and help in its relaxation during labour.

Milk and drugs of Madhura group have been advised for entire pregnancy period. Milk is a whole diet. The drugs of Madhura group are anabolic, thus use of these will help in maintenance of proper health of mother and growth and development of fetus.

All the contraindications can be grouped under following headings-

1. Those which produce psychological or physical strain such as grief, exercise etc.: Though normal coitus and exercise are beneficial, however, their excessive use or psychological trauma may precipitate abortion specially in ladies prone for the same.
2. Avoidance of visit to cremation ground etc: Sudden shock may produce abnormality specially abortion.
3. Over weight carrying or vehicle riding may precipitate abortion due to sudden increase in intra abdominal pressure: prolonged squatting in abnormal postures and supine position may influence placental and uterine blood flow (due to pressure of gravid uterus on iliac vessels) thus cause abortion, intrauterine death of the fetus or other abnormalities.
4. Dietetic regulations: Diet of pregnant mother is very important for maintenance of her own health, proper nourishment and growth of the fetus. Texts have contraindicated use of meat, while it is already advised by Acharya Sushruta in

fourth and fifth month, thus here excessive use of meat of aquatic animals should be taken. Wine in little quantity is not harmful, its excessive use harms the fetus. It is difficult to explain contraindications for use of pulses, garlic and onion etc., it is just possible that their excess use may produce digestive abnormalities.

5. Use of over satiation may excessively increase the body weight of mother and fetus, over eating is one of the cause of pregnancy toxemia. Over of fetus may cause difficulty in labour.
6. Specific rays emitted during eclipse may produce abnormalities of fetus.
7. Emesis etc. purifying measures can also precipitate abortion due to reflex stimulation of the myometrium.

S.No	Dietetics or mode of life	Effect on the fetus or child
1.	Squatting or sitting in abnormal position; suppression of urge of defecation, urination or flatus; improper and excessive exercise, use of pungent, hot edibles or less quantity of food.	Intrauterine death of fetus or premature delivery abortion or fetus becomes dry (Upasuska – missed abortion)
2.	Trauma and compression (in lower abdomen), peeping or falling in deep pit or well, riding in jerking vehicle, listening to unpleasant words.	Premature delivery or abortion
3.	Sleeping in supine position with stretched extremities.	Umbilical cord encircles the neck of the fetus and troubles it.
4.	Sleeping uncovered in open place or night walking.	Insane or extravagant (Unmatta)
5.	Oral and physical strife or pugnacious.	Epileptic (Apsmara)
6.	Over indulgence in sex.	Deformed, impudent or lazy

		and hen pecked
7.	Always distressed or grieved.	Poltroon, slender, short lived or less digestive etc. power.
8.	Psychologically malevolent or constantly worried.	Nature of troubling others, jealous and henpecked.
9.	Thief or robber.	Industrious, spiteful, idle.
10.	Intolerant	Furious, deceitful, insidious, calumnious
11.	Over sleepy	Sleepy, ignorant and possess less digestive power
12.	Using wine daily	Over thirsty, short memory and fickling mind
13.	Often use of meat of iguana	Suffers from bladder stone, gravel or slow stream of urine (Sanairmeha)
14.	Often using hog's meat (pork)	Red eyes, rough body hair and obstructed breathing or snoring
15.	Using daily fish	Fixed eyes or delayed blinking of eye lids
16.	Daily (excessive) use of sweet articles except milk	Suffers from Prameha (urinary disorders including diabetes mellitus), Obese and dumb.
17.	Using (excessively) daily sour articles.	Suffers from Raktapitta (bleeding diathesis), skin and eye disorders
18.	Daily (excessive) use of salty articles	Early wrinkling, graying of hair and baldness.
19.	Daily excessive use of bitter (Katu) articles	Weak, possess less quantity of Shukra and infertile
20.	Daily excessive use of pungent (Tikta)	Suffers from emaciation

	articles.	(Shosa) or edema (Sopha), weak, scraggy and less digestive etc. powers.
21.	Daily excessive use of astringent (Kasaya) articles.	Swarthy, suffers from Anaha (flatulence) and Udavarta (eructation).
22.	Use of articles likely to produce disease.	Diseases according to cause.

Chapter 7

Results and Conclusion

Results

In the previous chapters of dissertation, an elaborate description about importance of Yogic Practices for the betterment of monthly foetal growth and development has been given. In addition to this, monthly foetal development as per Ayurveda and Modern Science along with importance of Diet has also been described.

Pregnancy is a condition in which women undergo distinct physiological changes and stress and is accompanied by unique physical and psychological demands. There is a need to manage the various physical, emotional, mental, and pain states that arise throughout the stages of pregnancy and labour. The well being and quality of life of the mother is critical for optimal pregnancy outcomes; self-soothing techniques, psycho-education, and relaxation are particularly important in this transitional and meaningful time.

Yoga has been proved helpful in the management of stress and other associated conditions or symptoms accompanying pregnancy, such as edema, gestational hypertension or diabetes, mood instability, musculoskeletal discomfort, aches, and weight gain. Yoga has also been proved to be effective for a variety of immunological, neuromuscular, psychological, and pain conditions. This textual study indicates that it may be effective in improving pregnancy, labour, and birth outcomes. Mind-body practices that cultivate general health, diminish distress, and increase self awareness, such as tai chi or yoga, maybe be particularly effective in addressing both the physical and psycho-emotional aspects of pregnancy and labour.

On the basis of scientific discussion given in previous chapter, the results can be drawn as Yogic practices like Asana, Pranayam, Bandh, Mudra etc. has a crucial

role for the betterment of monthly foetal growth and development. These practices have been proved effective for better availability of oxygen to the foetus, comfortable habitat inside the uterus for foetus, better physical and mental growth and development, better adjustments of the mother with the her physical changes due to growing foetus. Yoga has been proved to be effective for a variety of immunological, neuromuscular, psychological, and pain conditions. This textual study indicates that it may be effective in improving pregnancy, labour, and birth outcomes.

As per the description available in Ayurveda and Modern texts, the result can be drawn as diet has a significant role in the monthly foetal growth and development. The diet is required not only for the increase in protein built mass of the foetus but various macromolecules, vitamins, minerals has a role in the organ development and maturity of the foetus.

Ayurvedic texts comprise enriched description of monthly growth and development of foetus. Various Acharyas especially Acharya Charak and Sushrut in their Sharir Sthan described all the details from Shukra Shonit Sanyog to formation of Kalal to each and every changes up to the full term growth and development. This description is very much similar to the description of modern science rather more elaborative. Ayurvedic Acharyas described various factors responsible together which have an effect on constitutional, temperamental, psychological and spiritual make up of each individual. Out of them one is Shad Garbhkarabhavas (factors) i.e. Matrija, Pitrija, Atmaja, Sattvaja, Satmyaja and Rasaja have the influence on the constitution of the foetus.

Conclusion

1. Yogic practices are of great importance for the betterment of monthly foetal growth and development. This has been scientifically explained and proved that physical and psycho-emotional aspects of pregnancy and labour can be best addressed with Yogic practices.
2. Diet prescribed by Ayurvedic Acharyas and modern science has great role in monthly foetal growth and development.
3. Ayurvedic texts like Charak Samhita and Sushruta Samhita comprises in depth description of monthly foetal growth and development. The Ayurvedic description is not only very close to modern description but far deeper and accurate as well.
Shad-garbhakarabhavas, described by Ayurvedic Acharyas play significant role towards the development of normal foetus. The healthy progeny may also be achieved by following the rules of Ayurveda.

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