Role of Diet and Nutrition in Pregnancy – An Ayurvedic Perspective

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ABSTRACT

Women have special dietary needs during each stage of her lives, including adolescence, pregnancy, breast feeding and menopause. During pregnancy the mother’s nutrition bears a great impact on the foetus’s growth and its future. Ayurveda lays great emphasis on ensuring holistic nutrition. A combination of Ahara (diet), Vihara (regimen), Vichara (emotions/thoughts) and Aushadha (medications) have been given great significance in Ayurveda in antenatal care called as Garbhini Paricharya (Antenatal care). Diet comprises the most important component of Garbhini Paricharya. Ayurveda advises congenital diet and regimen throughout the pregnancy. It also stresses on the healthy state of mind and body to beget healthy progeny. Milk and ghee stand out as the most common in the pregnant diet that Ayurveda advises. The idea of this is to provide optimum amount of protein and fat to the body. In addition, it provides right amount of calcium and vitamins for the pregnant mother helping in sustaining a comfortable lactation. In this review article a designed protocol of the month wise diet advised by various ancient Ayurvedic physicians, which can be modified according to the age, season, place, constitution and the digestive fire of the pregnant woman has been presented.

Key words: Diet, Nutrition, Pregnant, Garbhini Paricharya.

INTRODUCTION

Giving birth is considered a normal yet a special act; it is also a critical bodily phase, which can go awry. Society has a responsibility to ensure that all women should safely journey through pregnancy and childbirth. If that does not happen it shows failure of a society (families and communities) and a crisis in healthcare system. Going by the number of maternal deaths related to childbirth, it appears that India as a civilization has failed her women when it comes to ensuring their survival and safety in the most basic act of procreation. What is even more miserable is the fact that mother and child health (MCH) care is one of strength of Traditional Indian Medical System. India has accounted for a third of global maternal deaths, at 19% (56,000). The Indian Maternal Mortality Rate (MMR) in 2009 was 212 maternal deaths per 100,000 live births, down from 398 maternal deaths per 100,000 live births in 1997.

Needs of the pregnant women are not the sum of the needs of growing foetus added to those of a mature woman, maternal health is a complex, influenced by various genetic, social and economic factors, infection and environmental conditions, many of which may affect the foetal growth. Physiological increased absorption, increased excretion or alterations in metabolism.

In many developing countries, these physiologic changes can be aggravated by under-nutrition, leading...
to micronutrient deficiency states, such as anemia, that can have disastrous consequences for both mothers and newborn infants. Keeping this view in mind ancient Ayurvedic physicians had planned a regimen for pregnant woman known as Garbhini Paricharya.[4]

Ayurvedic text states that, “If a pot filled with oil right up to the brim is to be carried without spilling even a single drop, every step has to be taken with care”, the texts emphasis that a similar care and attention is required in taking care of a pregnant woman.[5]

In classical Ayurvedic texts an extensive study of food articles, food preparations, diet regimens, specific diets for surgical procedures and prenatal as well as postnatal dietetic cares etc. can be seen. Since food is the cause for health as well as disease, Authorshave described the signs and symptoms of the disease and its management with respect to the properties and actions of Ahara (diet) and Ahara Vidhi (dietetics) which was prevalent during their period.

Here in this review article a glimpse of the time tested regimens of various ancient Ayurvedic physicians, described for antenatal care, which can give us promising results towards lowering MMR, IMR and healthy mothers and children in the country.

METHODOLOGY

The matter related to Antenatal care, scattered in various Ayurvedic classics were critically examined, evaluated and probable modifications that can be included in traditional practices which suits today’s lifestyle without altering the principles of care of pregnant woman are suggested.

Mode of life throughout Pregnancy

Acharya Charaka states that the pregnant woman desirous of producing a healthy and good looking child should give up non-congenital diet and mode of life and protect herself by doing good conduct and using congenital diets and mode of life.[6] Acharya Sushruta has advised that the woman from the very first day of pregnancy should remain in high spirit, religious, decorated with ornaments, wear clean white garments and perform religious rites, do auspicious deeds and worship God, Brahmans and priests. Her sleeping and sitting place should be covered with soft cushions or mattress, not to be very high, possess elevated upper portion for head rest and should be perfect and very comfortable. She should use palatable, liquid, sweet and unctuous substances treated with appetizers. This should be followed till delivery.[7] Ashtanga Sangrahakaara has said that since welfare and contraindications of mother and foetus are similar, hence the pregnant woman should use desired congenital diet and proper mode of life, and avoiding factors likely to harm the foetus. The pregnant woman is fit for the use of Brumhana (anabolic) therapy.[8] Ashtanga Hrudayakaara has advised external and internal use of Jeevaniya (life promoting) group of drugs. Affectionate and good behavior of husband and servants helps in maintenance of Pregnancy. She should always use butter, ghee and milk etc.[9]

Acharya Kashyapa states that whatever the food is consumed by the pregnant woman, the same become congenial to the foetus, thus diet should be taken considering place of living, time or season and digestive capacity, it should never be neglected. She should use meritorious, auspicious, pious, new and intact garments and ornaments possessing masculine names. No article bearing feminine or common gender name should ever be used. Her residing place should be fumigated with fragrant drugs and should be free from insects like mosquito etc. Worshipping rituals and chanting of Vedic hymns by Brahmans and songs and instruments pleasing to the pregnant lady should be played. The woman after leaving her bed in the morning and performing daily routine should get busy in worship the priests and deity and also worship the rising sun with perfumes, incense, servings and water. She should take bath daily and remain well behaved. She should use warm water, milk and meat.[10]

Masanumasika Garbhini Paricharya

Ayurveda is a highly developed philosophy. Concepts floated belonged to a very highly evolved civilization.
Ayurveda conceptualized a vibrant society, which is made of healthy population. This they called Supraja (healthy citizens). In order to achieve this eugenic goal they advocated a regime for pregnant woman, called Garbhini Paricharya (antenatal care). “Evam Kurvati Hi Arogyagya Bbala Varnasamvahana Sampadam Upetam Jnatinam Shreshtam Apatyam Janayati” (Charaka Samhita). If a pregnant woman is taken care of as advised she will give birth to a child, who is without any disease, healthy, physically strong, radiant and well nourished.[13]

Regimen for first month of Pregnancy

Acharya Charaka states that when the women doubts of conception, from the very first month itself she should take milk repeatedly in desired quantity depending upon her digestive power and strength. She should also take Pathya and Satmya Ahara (favourable diet in morning and evening).[12] While Acharya Sushruta advises sweet, cold and liquid diet from first to third month[13] and Ashtanga Sangrahakara advises to take medicated milk timely in specific quantity depending upon the digestive capacity in morning and evening. For the first 12 days of pregnancy she should take ghee extracted from milk and medicated with Shaliparni (Desmodium gangeticum DC.) and Palasha (Butea monosperma), water boiled with gold and silver should be given as an after-drink after cooling. Sweet, cold, liquid and congenital diet should be taken twice i.e. morning and evening. Massage of oil and rubbing of unguent should be avoided.[14]. Harita advises that drugs like Yasthimadhu (Glycyrrhiza glabra Linn.), Parushaka (Grewia asiatica Linn.) and Madhukapushpa (Diploknema butyracea Roxb.) should be taken with butter and honey followed by use of sweetened milk.[15]

Regimen for second month of Pregnancy

Acharya Charaka and Vagbhata have advised to take the milk medicated with Madhura (sweet) drugs in the second month[16], while Sushruta has advised to follow the same regimen of first month[17]. Harita advises to take sweetened milk treated with Kakoli (Roscora prcera Wall.).[18]

Regimen for third month of Pregnancy

Acharya Charaka and Vagbhata have advised to take the milk with honey and ghee[19]. Sushruta advises to take sweet, cold and liquid diet, especially cooked Stasti rice with milk[20], while Harita advises to take Krushara (olio prepared with rice and pulses).[21]

Regimen for fourth month of Pregnancy

Acharya Charaka has advised to take butter extracted from milk in the quantity of 10g. or milk with butter[22]. Sushruta advises to take Stasti rice with curd, dainty and pleasant food mixed with milk and butter and meat of wild animals[23]. Vagbhata has advised milk with 10g. of butter[24]. Harita advises to take medicated cooked rice.[25]

Regimen for fifth month of Pregnancy

Acharya Charaka and Vagbhata have advised to take ghee prepared with butter extracted from milk[26]. Sushruta advises to take Stasti rice with milk, meat of wild animals along with dainty food mixed with milk and ghee[27]. Harita has advised to take Payasam (rice cooked with milk and sugar)[28].

Regimen for sixth month of Pregnancy

Acharya Charaka and Vagbhata have advised to take ghee extracted from milk and medicated with the drugs of Madhura (sweet) group[29]. Sushruta have advised ghee or rice gruel medicated with Gokshura(Tribulus terrestris) [30]. Harita has advised to use curd in the sixth month of pregnancy.[31]

Regimen for seventh month of Pregnancy

Acharya Charaka and Vagbhata have advised to follow the same regimen of sixth month[32]. While Sushruta has advised to take ghee medicated with Prithakparnyadi (Vidorigandhadi) group of drugs[33]. Harita has advised to take Ghritakhanda (a sweet dish)[34].

Regimen for eighth month of Pregnancy

Acharya Charaka says that in the eighth month, rice gruel prepared with milk and mixed with ghee should be given[35]. Sushruta has indicated that in this month...
for clearing the retained feces and Anulomana of Vayu (regulating of Vata in right direction), the Asthapana Basti (evacutative enema) should be given with decoction of Badara(Ziziphus jujube Lam.) mixed with Bala (Sida cordifolia), Atibala (Abutilon indicum), Shatapushpa (Pimpinella anisum), Palala (pestled sesamum seeds), milk, curd, Mastu (sour butter), oil, salt, Madanaphala (Randia dumetorum), honey and ghee. This should be followed by use of uction enema of oil medicated with milk and decoction of drugs of sweet group. After this she should be given unctuous gruels and meat soup of wild animals.[36] Ashtanga Sangrahakara has incorporated the description of Acharya Charaka and Sushruta and has told to use the soft rice mixed with ghee extracted from milk. He has advised that the enema should be given to the women in bent or humpbacked position because in this position the passage becomes dilated and the medicine enters properly.[37] Ashtanga Hrudayakara has advised use of liquid diet prepared with ghee and milk and uction enema prepared with ghee and drugs of sweet group for cleaning the collected feaces. After this, the enema by decoctions should be given with the decoction of Badari (Ziziphus jujube Lam.) and sour substances mixed with pestled Shatapushpa, ghee, oil and rock salt.[38] Harita has advised use of Ghritapuraka (a kind of sweet preparation).[39]

Regimen for ninth month of Pregnancy

Sage Charaka and Vagbhata have advised use of uction enema with oil prepared with the drugs of sweet group or the same as used in eighth month. Vaginal tampon of the same oil should be given for lubrication of Garbhashana (cervix) and Garbhamarga (vaginal canal and perineum).[40] Astanga Hrudayakara has prescribed meat soup with cooked rice and fat (preferably ghee) or rice gruel mixed with good quantity of fat. Anuvasana Basti as advised in eighth month and vaginal tampon of the same oil should be given. Daily bath with decoctions prepared by Vata suppressing drugs should be given. To the women having absence of unctuousness in the body uction enema should not be given for whole ninth month or in other words unctuous enemas should be given only after use of oleation therapy.[43] Harita opines that in ninth and tenth month different varieties of cereals should be used.[42]

Foetal Nourishment

Acharya Charaka explains the point that whatever diet the pregnant women consumes, the Ahara Rasa (digested food) formed from this performs three functions,[43]

1. Nourishment of women’s body.
2. Formation of milk.
3. Nourishment of the foetus.

Acharya Charaka also says that Garbha (foetus) is an amalgam of various factors: Mata (maternal), Pita (paternal), Rasa (dietary), Satmya (factors agreeable to the body), Satva (mental) and Atma (soul), with the normalcy of all six factors of conception and use of congenial diet and regimen by the pregnant women, the foetus obtains its nourishment.[44]

Effect of Unwholesome food on Foetal development

Acharya Charaka also knew the ill effect of improper nutrition, He has mentioned it in Garbhopaghatakara Bhavas i.e. factors responsible for the damage to the foetus, along with other factors, the food articles that are very heavy, hot and irritant, intoxicating wines and the excessive intake of meat is responsible for the damage to the foetus.[45]

Further Charaka says the diet and management mentioned in the chapter on the principles of procreation (Jatisutriya Adhyaya) prevent disorders and promote the growth of foetus, if these two are not properly observed the offspring dies immediately after birth as the newly planted tree with unstable roots is destroyed by the wind and the sun.[46]

In Jatisutriya Adhyaya, Charaka has described the factors responsible for damaging the foetus. In short the pregnant women gives birth to a child suffering mostly from the respective disorders, hence the women desiring excellent progeny should particularly abstain from non-congenial diet and regimen.[47]
**DISCUSSION**

The Pregnant woman should use palatable, liquid, sweet and unctuous substances treated with appetizing things; congenital diet should be continued till the delivery. Whatever the food the pregnant woman takes that food becomes homologous to the foetus. The pregnant woman desirous of producing a healthy and good looking child should give up non-congenial diet and regimen and protect herself by doing good conduct and use congenial diet and regimen [48] Charaka says that by following this regimen the woman remains healthy and delivers the child possessing good health, energy, strength, voice, compactness and much superior to other family members. [49]

A single blind clinical study conducted by Dr. Jayashree KS, here all the registered pregnant women received the regimen described in the classics, and all the phases of pregnancy were incidence free. Commonly observed simple deviations like indigestion, aches and pains were not observed. All the cases had onset of labour pain in the appropriate time and had normal delivery. [50]

Use of milk, ghee, honey, sweet, cold, liquid diet and Shashtika Shali rice mixed with the milk or Krushara (soft rice) has been prescribed. Generally milk is sweet in taste. It is unctuous (it has oiliness). It promotes growth of tissues and is cooling to the body. Cow’s milk especially, improves intelligence, sustains life and acts as a rejuvenator. Milk cures fatigue, excessive thirst and hunger. It is an ideal food for persons suffering from emaciation. It helps in preventing bleeding. It increases strength and breast milk. For these reasons milk is the ideal food for pregnant mothers. It provides nutrition and stability to the foetus.

The drugs of sweet group like Yasthimadhu, Parushaka, Madhukapushpi are having anabolic, memory enhancing, pitta decreasing and anti-emetic property. As in the first trimester of pregnancy, most women experience nausea and vomiting and thus cannot take proper diet. The use of cold, sweet liquid diet and milk will prevent dehydration and supply required nourishment, besides the drugs of sweet groups being anabolic will help for proper maintenance of mothers’ health and the foetus, and the advice of memory promoter drugs in therapy may be because of the role of environmental factors causing stress as important factors affecting both physical and mental development of the foetus in uterus. Hence, the use of these drugs will help in maintenance of proper health of pregnant women and development of foetus.

Fourth month onwards muscular tissue of fetus grows sufficiently requiring more protein which is supplied by use of meat and meat soups. Meat possesses many good properties. Meat in general, is the best food for controlling the Vayu in the body. Meat soup bestows stoutness, strength and nourishment to the body. It also gives contentment (Preenanam). It is good for improving vision and is an aphrodisiac. Meat in general, is heavy to digest. Properties of different meats differ slightly from one another. Among the meats, which are commonly available in the market, soup of goat’s meat is preferable. Goat’s meat prepared as a fat-free soup is easy to digest. This fourth month period is called Dauhruda Avastha, means the possessing of two hearts. One of her own and other of foetus. As per Ayurveda, desires of the foetus are expressed through the mother. Hence Dauhruda should always be fulfilled, except which cause harm to foetus. Fulfillment of desires result in birth of child possessing high qualities and longevity, very handsome, valiant, intelligent and well behaving child. For ex: Pregnant lady experiences a desire of tasting sour substances like mango, tamarind etc. because sour substances satiate the desire of overcoming nausea. In addition, there is marked demand of extra iron during pregnancy. Thus there always remains a physiological state of iron deficiency during pregnancy and iron is best adsorbed in sour media. If there is calcium deficiency she will crave to drink milk. If it is provided, bones and foetus can grow well otherwise they may become defective. Non fulfillment may cause intra uterine growth retardation (IUGR), underweight child etc. and number of consequential health problems.
In fifth month ghee, Shastik Shali rice with milk, meat of wild animals, pleasing food with milk, ghee should be given, because there is marked increase in foetal muscular tissue and blood. So the pregnant woman becomes emaciated due to lack of nourishment of maternal tissues or the nutrition is driven to nourish more and more muscular tissue and blood. Butter and Ghee helps in building up the muscle tissue. Butter is sweet in taste and very cold (cooling) in potency. It has the property of preventing bleeding during pregnancy. Butter improves strength, digestion and complexion. It helps cure cough, consumption, piles and disorders of Vata, Pitta and blood. It is very good for improving eyesight. During pregnancy it is an ideal food and it helps to create softness of body parts. Ghee possesses a very special property that enhances intellect, memory and other mental faculties. Even though it is a fat, it improves the power of digestion, unlike other fats. Ghee increases life span and fertility. It also improves sight, voice and complexion. It is a good tonic for children and the elderly. It gives softness to the body. Ghee is also an ideal tonic for persons suffering from emaciation, injuries etc. Butter and ghee are having a high caloric value that is the reason to give butter or ghee.

In sixth month i.e. by the end of the second trimester most women suffer from edema of foot and other complications of water accumulation. Use of tribulus terrestrisis that, it is an excellent herb in all problems related to the urinary system. It cleanses the urinary bladder, removes urinary stones, controls diabetes and relieves difficulty in urination in sixth month and will prevent retention of water as well as its complications.

In third trimester it is Vata dominant stage, but vitiation of Vata Dosha causes premature labour, prolonged labour, intra-labour complication, post-partum complication. Therefore the Garbhnini Paricharya mentioned for third trimester should be strictly followed. The Vidarigandhadi groups of drugs are indicated in the seventh month, these drugs are diuretic, anabolic, relieve emaciation and suppress Pitta and Kapha. The regular use in this month might help in maintaining health of mother and foetus. Most women experience constipation in late pregnancy due to pressure of gravid uterus over the bowels, use of enema in eighth month will relive this constipation besides this may also affect the autonomous nervous system (ANS) 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 helps in regulating their functions. Besides, this might soften the perineum and help in its relaxation during labour.

By following this regimen from first to ninth month the foetal membrane and Vaginal canal, Abdomen, sacral region, flanks and back become soft, Vayu moves into its right path, faeces, urine and placenta are excreted easily by their respective passages, skin and nails become soft, women gains strength and complexion and she delivers easily at proper time desired, excellent, healthy child possessing all the qualities and long life.

**CONCLUSION**

Diet of pregnant women is very important for maintenance of her own health, proper nourishment and growth of the foetus. This holistic regimen advised during various stages of pregnancy and childbirth comprising of thoughts, action, dietary modifications and herbs aims to ensure a healthy and smooth childbirth and at the same time sustain the overall health, nutrition and well being of both the woman and the baby. The measures are simple, easy to follow by women and families at the household level since the emphasis is on the use of locally available resources, and Ayurveda can contribute very effectively to the health of the mothers and children, locally as well globally.

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