

A Critical Review on Impact of Food & Daily Regimen (*Garbhini Pricharya*) During Pregnancy

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Abstract: Pregnancy is a demanding physiological state. Nutrition is a basic requirement to sustain life. An adequate diet is important for pregnant mother to meet their nutritional needs as well as foetal growth. In pregnancy ICMR (Indian Council of Medical research) recommended the high amount of calories, protein, minerals and vitamins etc. Micronutrient deficiency like iodine, calcium and zinc can cause anemia, hemorrhage and death in mothers. Life begins from conception and in *Ayurveda*, it is considered that *garbhasanskar* starts from before the conception. By following *ahara*, *vihara* and *vichara* as mentioned in *Ayurveda*, is the best way to make sure childbirth safe and natural. The purpose of this paper is to provide a broad view of the diet, nutritional needs, daily and seasonal regimen during pregnancy as well as correlation of mother nutrition with foetal growth during period of pregnancy, *Garbhini Paricharya* is nine-month protocol in *Ayurveda*, recommended the pregnant women to follow a specific diet and daily as well as seasonal regimen, which is designed properly to take care of the requirement and needs of the pregnant woman for safe pregnancy and motherhood. It advised to follow a diet, which is mainly sweet (*madhur*) in taste, easy to digest (*laghu*), which provide cooling to the body (*sheet*) and should be liquid (*drava*) in consistency. The purpose of the study is to emphasize that dietary management, mental health and daily lifestyle (*ahara*, *vihara* and *vichara*) are very important factor to reduce the maternal health complications and fetal growth.

Keywords: *Ahara*, *Vihara*, *Vichara*, *Ayurveda*, Adequate-diet, Foetal Growth, *Garbhini Paricharya*, Maternal Health

1. Introduction

Adequate diet plays a vital role in the wellbeing of pregnant women before and after pregnancy. The health of women is linked to their status in the society. The nutritional needs of Indian women do not meet due to their poor or inadequate diet. The health of an expectant mother is influenced by several infections, social as well as economic factors, and environmental conditions, which also effect the growth and development of foetus. Women with poor nutritional status before and during pregnancy and low body weight give birth to low weight infants, causes anemia, premature spontaneous rupture of membrane and infection. [1, 2] According to NFHS (National Family Health Survey) report as compared to NFHS-4 (National Family Health Survey - 4) the anemia among pregnant women has increased in half of the States/ UTs. [3] It is distinguished that an

undernourished mother is more likely to give birth to an undernourished baby, perpetuating an intergenerational cycle of undernutrition. [1] According to UNICEF (United Nations International Children's Emergency Fund) (2011), overweight women are more likely to have diabetes, hypertensive disorders, labour abnormalities and foetal death, hemorrhage. There are some factors such as complication of unsafe abortions, difficult labour, hypertension due to pregnancy, infection responsible for high prevalence of maternal deaths. [3] According to WHO (World Health Organization), 2.7 million neonatal deaths and 2.6 million stillbirths were reported in the world from 1990 to 2015 (WHO 2016). [4]

There is a relationship between maternal and foetal nutrition. Utilization of inadequate food intake or poor may cause maternal malnutrition, which reduces expansion of blood volume and increases inadequate cardiac output. This lead to blood and nutrient supply to the foetus in the womb,

size of placenta get reduces which reduces transport of nutrient to the foetus and may retard the growth of the foetus. [8]

According to *Ayurveda*, pregnant women's health can be maintained by *Garbhini Paricharya*, from conception to till childbirth. This recommends *Garbhini Paricharya* broadly discussed as *Masanumasika Pathya* (monthly dietary regime to do), *Garbhasthapaka Dravyas* (substances beneficial for maintenance of pregnancy), *Garbhopaghatakara Bhavas* (activities and substances which are harmful to foetus) as well as the activities what not to follow pregnant women. [5]

2. Nutritional Requirement: [1]

Carbohydrate: Metabolic changes during pregnancy increases the demand of nutrients. The energy intake during pregnancy increases due to support the mother's usual requirement as well as growth and foetal activity, [6] changed in body size, growth of maternal tissue and placenta and metabolic changes. [1]

Protein: Demand of protein increases due to rapid growth of the foetus, formation of amniotic fluid, enlargement of mammary gland, uterus and placenta, increase of blood volume.

Fat: For the growth and development of an embryo n-3 fatty acids and DHA (Docosahexaenoic acid) is required for the vision and cognitive acuity.

Minerals: The need of calcium increases in expectant mother due to calcification of foetal teeth and bones. Iron is required in gestation due to the growth of foetus and placenta as well as formation of blood. Increase in glomerular filtration and progesterone can cause loss of sodium. In the case of Hypertension and oedema sodium is restricted. Deficiency of Iodine during gestation can lead to abortion, cretinism and psychomotor activity, still birth etc. Zinc is required to reduce the low birth weight, malformation of foetal.

Vitamins: During gestation requirement of Vitamin A, D, E, K, C, B1, Riboflavin, Niacin, Vitamin B6, B12, Folic acid increases. Vitamin A reduces maternal mortality. Vitamin D is essential for the absorption of calcium. [7] Vitamin E is essential for reproductive process. It reduces the risk of spontaneous abortion and still birth. Vitamin K is essential during gestation for synthesis of prothrombin. Thiamine and Vitamin B6 is required for the carbohydrate metabolism and provides relief from nausea during pregnancy. Folic acid is

required to prevent macrocytic anaemia.

According to the study of NIN (National Institute of Nutrition) have indicated that nutritional deficiencies during the growth period in the womb cause maternal low body weight, which is the most important factor of low birth weight of neonate. Intake of poor nutrition and inadequate diet causes maternal malnutrition which reduces blood volume expansion, and this lead to inadequate increase in cardiac output (CO), which decreased the blood and nutrient supply to the foetus as well as reduces the size of placenta, and retard the growth of foetus.

3. Daily Regimen for Pregnant Women

In *Ayurveda*, it is considered that food and meditation is a best source of nourishment as well as it also makes possible normal delivery with ease and without much pain or complications. According to *Ayurveda*, the physical and psychological condition of the pregnant women improve by wholesome *ahara*, *vihara* and *vichara*. Therefore, the pregnant women should follow daily as well as seasonal regimen and food as suggested by *Ayurveda* during pregnancy, and this protocol is known as "*Garbhini Paricharya*". [8] *Ahara*, *vihara* and *vichara* are most important components of *Garbhini Paricharya*. [9] Following daily and seasonal regimen of *Ayurveda* from conception to till childbirth will nourish the pregnant women as well as help in proper growth and development of the foetus. *Pathya ahara* plays a very important role in the health of pregnant women and fetal growth. [9, 10] According to study, in *Ayurveda* during gestation, requirement of calcium increases, thus calcium-rich foods like green leafy vegetables, raisins, dates, guava and oranges should be taken every day at least 2-3 servings. In pregnancy requirement of high protein, minerals and vitamins are recommended in both *Ayurveda* and modern nutrition. According to *Yogratnakar*, *shali* and *shastika* beneficial for pregnant woman, that is, flour of parched rice (*prithuka*), *ghritam* (ghee), *mudga* (green gram), *rasala* (medicated curd) mixed with sugar and condiments, honey, sugar, jackfruit (*panas*), banana (*kadali*), *amalaki*, sour (*amla*) and sweet (*madhur*) substances, *lepa* (pack) with cooling agents, sandal (*chandan*), and camphor (*karpura*), massage (*abhyanga*), soft bed, cool air, wearing of garlands, desired food etc., are good for pregnant women, and classical text also advised specific water for pregnant women's bath.

Table 1. Month wise diet regimen.

Month	Sushruta [11]	Charaka [12]	Harita [13]	Vagbhatta [14]
First	Sweet (<i>Madhur</i>), cold (<i>sheet</i>), diet should be liquid in consistency	Non-medicated milk consumed in adequate quantity	<i>Yashthimadhu</i> (<i>Madhuyashiti</i>), <i>paruska</i> (<i>parushak</i>), <i>madhuka</i> (<i>madhukpushpa</i>), should be taken with honey and butter and sweetened milk (<i>Mathura dhugdha</i>)	<i>Aushadhi sidha dugdha</i> (Medicated milk) - timely in adequate quantity. <i>Ghrita</i> extracted from <i>dugdha</i> and medicated with <i>triparni</i> (<i>shaliparni</i>) and <i>palash</i> for first twelve days
Second	Sweet (<i>madhur</i>), cold (<i>sheet</i>), and liquid diet (<i>peya</i>)	Medicated milk with <i>madhur</i> drug	Sweetened milk treated with <i>kakoli Kavita Mule</i>	-

Month	Sushruta [11]	Charaka [12]	Harita [13]	Vagbhatta [14]
Third	Sweet (<i>madhur</i>), cold (<i>sheet</i>) and liquid diet (<i>peya</i>) be taken, <i>Shashti</i> rice	Milk along with honey (<i>makshika</i>) and <i>ghrita</i> (clarified butter).	<i>Krishara</i> , <i>Dauhruda utpatti</i>	Milk (<i>dugdha</i>) with honey and <i>ghrita</i> (clarified butter)
Fourth	Cooked <i>Shashti</i> rice with curd, pleasing food mixed with <i>jangal mamsa</i> , milk (<i>dugdha</i>) and butter (<i>navneet</i>)	Milk with butter (<i>navneet</i>)	Medicated cooked rice.	Milk (<i>dugdha</i>) with butter (<i>navneet</i>)
Fifth	<i>Ghritam</i> or medicated rice gruel with <i>gokshura</i> , <i>Shashti Dhanya</i> (rice) with milk, <i>jangal mamsa</i> (Meat of wild animals)	<i>Ghritam</i> medicated with <i>madhura</i> group drug	Sweetened curd (<i>dadhi</i>)	<i>Madhur aushadh sidha ghritam</i>
Sixth	<i>Ghritam</i> or <i>gokshura sidha</i> (medicated) rice gruel	<i>Ghrita</i> (clarified butter) medicated with the drugs of <i>madhura</i> group	<i>Madhur aushadh sidha ghritam</i> (clarified butter)	<i>Madhura dadhi</i> (Sweetened curd)
Seventh	<i>Ghrita</i> (clarified butter) medicated with the drugs of <i>madhura</i> group	<i>Ghrita</i> (clarified butter) medicated with <i>prithakparnyadi</i> group & <i>vidarigandhadi</i> group of drugs.	<i>Ghrutkhanden</i>	<i>Ghrita</i> (clarified butter) medicated with the drugs of <i>madhura</i> group
Eighth	For clearing the retained feces (constipation) and <i>anulomana</i> of <i>vayu</i> , the <i>asthapana basti</i> (evacuative enema) should be given with <i>bala</i> , <i>atibala</i> , <i>satapushpa</i> , <i>palalapestled sesamam seeds</i> , milk, curd, whey (<i>mastu</i>), oil, salt, <i>madanphala</i> , honey and <i>ghritam</i> . This should be followed by use of <i>anuvasana basti</i> (unctuous enema) of oil medicated with milk and decoction of drugs of <i>madhura</i> group	Rice gruel prepared with milk (<i>dugdha</i>) and mixed with <i>ghrita</i>	<i>Ghritapurak/ ghevar</i> - a kind of sweet preparation	Same <i>basti</i> (enema) prescribed by <i>Acharya Susruta</i> with removal of three drugs as <i>shatapushpa</i> , <i>bala</i> and <i>atibala</i>
Ninth		Rice gruel (<i>Yavagu</i>) prepared with milk (<i>dugdha</i>) and mixed with <i>ghrita</i> (clarified butter)	Varieties of cereals should be used.	rice gruel prepared with milk (<i>dugdha</i>) and mixed with <i>ghrita</i> (clarified butter)

4. Discussion

During Pregnancy physiological changes occurs from conception to till birth. Poor dietary intake and unfavorable lifestyle can cause complication during pregnancy. An adequate and health diet is a mean to meet the increased demand of nutrients during pregnancy. There is a significant impact of nutrition during pregnancy on maternal and foetal health. During pregnancy, diet should nourish the mother and should help the growth and development of the foetus as well as should ensure safe and smooth child birth. Diet should help in the secretion of breast milk.

In *Ayurveda*, dietetic, daily and seasonal regimens are advocated in *samhita* as *Garbhini paricharya*, which have great significance. *Garbhini Paricharya* is broadly discussed as *Masanumasika Pathya* (monthly dietary regime), *Garbhasthapaka Dravyas* (substances which are beneficial for maintenance of pregnancy), *Garbhopaghatakara Bhavas* (activities and substances which are harmful to foetus).

According to *Ayurveda*, foetus is born and grows from *Ahara Rasa* from the womb of mother. This study is mainly focused on the details of *Garbhini Paricharya* as mentioned in *Ayurveda* about month wise healthy maintenance of pregnant women, promote the healthy growth and development of foetus according to. In *Samhitas*, *Garbhini Paricharya*, contains dietetic and behavioral as well as psychological regimens mentioned for pregnant women, have great significance. These *Garbhini Paricharya* were broadly discussed in *Ayurveda* classics, as *Masanumasika Pathya*, *Garbhopaghatakara Bhavas* and *Garbhasthapaka Dravya*.

In *Garbhopaghatakara Bhavas*, are the diets and activities

(*Apathya Viharana*) that are harmful for the foetus and cause congenital anomalies in foetus were explained. *Garbhopaghatakara Bhavas* is related to bad behaviors. Except that, some of *Acharyas* have mentioned to stay in hot sun for long time and looking at sun, setting sun purifying measures, fasting, trauma, anger, awakening in night, day sleeping, grief, suppression of natural urges. Pregnancy complications occur due to smoking and tobacco chewing either before or during pregnancy, poor pregnancy outcomes with the more defects to the growing foetus. Drinking alcohol during pregnancy, enters the bloodstreams of the foetus and cause harmful effects on the foetus. [15, 16] During pregnancy women should do some suitable activities such as day to day house works, walking, indoor stationary cycling, prenatal yoga. According to study, moderate exercise can induce sleep and improve muscle strength, decrease the problem of fatigue, constipation, boost mood, enhance the energy level. [17] These activities are safe to perform in uncomplicated pregnancies while rule out of pre-aborted mother. [18] Over physical activity, is not good for the health of pregnant women. Factors which produce physical and psychological strains such as shock, mental stress, fear grief, exercise, anxiety, over weight etc. may precipitate abortions or abnormalities of foetus. *Acharya Charaka* had mentioned that *Matrija Aahara-Vihara* dosha which is referred to improper diet and regimens of mother during pregnancy (*Garbhadana Kala*) as one of the factors cause fetal deformities (*Garbha Vikruti*) and congenital disorders (*Anuvamshika Vyadhi*). [6] Abortion, intrauterine death of the foetus or other abnormalities occurs due to sudden increase in prolonged squatting in abnormal postures, intra-abdominal pressure, and supine position; which may influence placental

and uterine blood. [19] In *Ayurveda* classical text, *Acharya Vagbhata* has mentioned if a pregnant woman get treated with the desired foods and pattern by their husband and servant will help to protect the foetus. [19] In studies it is found that in the pregnancy, physical and Psychological support from the family is very needful.

5. Conclusion

Inadequate diet and micronutrient deficiency and not following daily regimen during pregnancy may affect the health of pregnant women as well as safe and normal delivery and also affect the foetal growth. Many pregnant women face multiple socioeconomic and lifestyle difficulties during pregnancy which is responsible for the nutritional deficiency or complications during pregnancy. Balanced diet is beneficial for healthy pregnancy. Nutrition plays an important role during this period, the diet of pregnant women should be rich in carbohydrate, protein, vitamins, and minerals and should also include essential fatty acids, because it determines the lifetime risk of disease, Nutrients have a potential to modify risk factor. provides guidelines for antenatal care suggested by the World Health Organization (WHO), which provides all-inclusive guidelines, suggests nutritional needs of women throughout reproduction from preconception to pregnancy and lactation.

This review of literature suggests that if a pregnant woman will follow the dietary, behavioral, lifestyle management, guidelines as suggested by in Ayurvedic text the mother and child will be healthy and safe. *Garbhini paricharya* is a guideline or the care given to women during her pregnancy through *Ahara*, *Vihara* and *Vichara*. *Garbhini paricharya* described month wise *Paricharya* that helps in the development of foetus, the main intension of advising *Garbhini Paricharya* is providing growth of mother and foetus, pregnancy without complications or healthy delivery and healthy child.

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