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“REVIEW ON DIET AND NUTRITION FOR POSITIVE PREGNANCY EXPERIENCE”

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ABSTRACT:

Wellness of pregnant women and foetus is maintain through proper *Garbhini Paricharyatill* delivery. *Garbhini paricharya* means *Pathya –Apathya* in *ahar Vihar* (diet and lifestyle), aushadhi (medicine) and prepare her for normal delivery through counselling. *Kashyap* says that whatever eatable and drinkables are consumed by pregnant woman same become congenial to the fetus .so pregnant woman should take care of her diet.

Keywords: *Garbhini Paricharya, Ahar-Vihar, Pathya –Apathya, upswedanandkedar - kulyanyay, unsnehan*

INTRODUCTION

Nutritional adequacy during preconception, pregnancy and breastfeeding is essential in ensuring the normal growth and development of the foetus. Perceived benefits will be able to strengthen pregnant women to meet optimum nutritional intake to prevent anaemia. Adequacy of protein, vitamin c, and iron will reduce the risk of iron deficiency anaemia in pregnancy. The incidence of malnutrition in pregnant mother will leads to foetal development disorders, preterm labour, growth retardation. Health education for pregnant mothers which focus on the perceived benefits about healthy nutrition will improve the nutritional behaviour. Maternal stores laid down during pregnancy are important supporting breastfeeding. Breast milk is the optimal food for the infant and breastfeeding provides positive benefits for mother as well.

According to *Ayurveda* foetus obtaining its nutrition from *rasa* by *upsnehan upswedanand kedar -kulya nyay* and *rasa* formed from diet of mother¹. According to modern placenta links maternal and foetal circulation with syncytiotrophoblasts lining placental villa and consisting of two polarised membrane microvillus membrane facing maternal circulation and basal plasma membrane facing foetal capillary². Thus nutrients must pass through these two membranes before crossing the foetal capillary epithelium to enter the foetal circulation. Activity of transport mechanism within placental-foetal unit have been associated with foetal growth restriction and maternal nutrient availability.

Dietetic and certain other regimen advocated in different samhitas for pregnant women are of great significance³.

Mo	Charaka	Sushruta	Vagbhata	Harita
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nth	samhita	samhita	samhita	samhita
Pra tha m mas	Anupskrut ksheer (milk)	Madhur ,sheet ,dravya aahar	Medicated ksheer	Yash tima dhu sidd ha kshe er or mad hu +ksh eer
Dwi tiya mas	Madhura ushadhi siddha ksheer	Madhur sheet dravya aahar	Madh ur ausha dhi siddh a ksheer	Kako li sidd ha kshe er
Tru tiya mas	madhu+ Ghruta+ ksheer	Madhur sheet dravya aahar	Madh u+sar pi+ ksheer	Krus hara
Cha turt ha mas	Ksheer+ navneet	Shashti koda,j angal mas yukta ahar +navne et	Kshee rwith laksa navan eet	Medi cate d rice
Pan cha ma mas	Ksheer +sarpi	Shashti koda,j angal mas yukta ahar +navne et	Kshee r +sarpi	Paya sya (rice with milk)
Sha shtha	Madhur aushadhi siddha	Gokshu r siddha yavagu	Madh ur ausha	Swee tene d

<i>mas</i>	<i>ksheer+sarpi</i>	<i>pan</i>	<i>dhi siddha ksheer+sarpi</i>	<i>dadhi</i>
<i>Saptamas</i>	<i>Madhur Aushadhi ksheer+sarpi</i>	<i>Pruthak parnyadi</i> <i>Gruta</i>	<i>Madhur aushadhi siddha ksheer+sarpi</i>	<i>Gruta khanda</i>
<i>Ash tam mas</i>	<i>Ksheer yavagu sarpi</i>	<i>Asthapan basti and anuvaa n basti (oil+madhur aushadhi)</i>	<i>Ghruta mix yavagu</i>	<i>Aahar with Ghruta</i>
<i>Nav am mas</i>	<i>Ksheer yavagu sarpi</i>	<i>Snigdha yavagu with jangal mas rasa</i>	<i>Ghruta mix yavagu</i>	<i>Different varieties of aahar</i>

(Table no. 1)

Nutrient required in pregnancy (normal values)⁴

Energy	Vitamins	Minerals
Protien-1.1g/kg/day	Thiamine-1.4mg, Vitamin A-770ug	Calcium-1200mg

Fatty acid-omega3-	Riboflavin-1.1mg, Vitamin D-5ugm	Coppeer-1.3mg
Carbohydrate-260g/day	Niacin -20-60mg Vitamin E-15mcg	Iodine-220ug
Dietary fibers-28gm/day	Vitamin B6-2mg/day Vitamink-1mcg/kg/day	Iron-27mg/day
	Biotin -35-60mcg/day Vitamin B12-2.4ug/day	Phosporus-1250mg
	Choline-450mg Folic acid-400ugm	Zinc-11mg/day
	Vitamin c-50mg	Magnesium-360mg Fluride-3-360mg

(Table no.2)

IMPORTANCE OF DIET IN FRIST TRIMESTER :-

- ❖ During first trimester *vata dosha* is alleviated in pregnant women. In dietary regimen *ghrita*, *milk*, *Madhur Dravyas*, medicated *ghrita*, are suggested which are well known for *Vatashamak* properties⁵.
- ❖ *Vata* is responsible for cell division during embryogenesis.⁶ The imbalance in *vata dosha* may hamper its normal functions and process of cell division. In embryonic period no drug should be given because drug can disturb the organogenesis and may lead to

teratogenicity⁷. Embryogenesis takes place in first trimester hence an increasing amount of energy is required during this period. All these energy will be provided by *Kshira, ghrita, Payas, and Madhur aushadhi*.

- ❖ Most of women experiences nausea and vomiting, thus cannot take proper diet which result in dehydration and loss of nutrients. Use of cold and sweet liquid diet and milk prevent dehydration and supply nutrients. Drugs of *Madhur* group being anabolic will help in maintenance of proper health of mother and foetus. Only folic acid supplementation is required because it is essential for production of methionine (for methylation reaction of DNA).⁷

- ❖ *Acharya Kashyapa* explained that foetus will not be stable before 4 month so no medicine is given.⁹ Milk is natural sources of folic acid and it is also a good source of carbohydrate, fat, protein, all vitamins, minerals, and enzymes which are essential for foetal and mother nourishment.

- ❖ Progesterone hormone which is essential to continuation for pregnancy, milk is external sources of this¹⁰. Nourishment for fetus till *Vyaktagarbha* supplied from *Rasa* by *Upsnehan* and *Upswedan*, for this milk is helpful¹¹. Breast milk is the updhātu of ras dhatu. Increased sr.IGF-I in milk enhance the bone formation.¹²

In second trimester:-

- ❖ Muscular tissue of fetus grows by hyperplasia and cellular hypertrophy, requiring
- ❖ More protein which supplied from animal sources such as meat, milk, butter etc. Because they furnish amino acids in optimal combination.

- ❖ Milk and dairy products ideal sources of protein and calcium, provides nourishment and stability to fetus.¹⁴ Cooked *Shashtika shali* rice rich in carbohydrate and provides energy. Meat helps in maintenance of pregnancy, provides nourishment to fetus and suppress alleviated *Vata*.¹⁵

- ❖ By the end of second trimester most of women suffer from edema of feet and other complication of water retention. So *ghrita* medicated with *Gokshur* is used which is good diuretic (*Mutravirechak*), anti-inflammatory (*Shothahar*), anti-bacterial (*Krimighna*) will prevent retention of water and edema. *Gokshur* may also prevent the pre-eclampsia in pregnancy.¹⁶

In third trimester:-

- ❖ *Ghrita* medicated with *Pruthakparnyadi* group of drugs are diuretics, anti-inflammatory, *Prajasthapak* (procreant), *Bruhan* (weight promoting), anabolic, relieves emaciation and suppress pitta and *Kapha*. Maintain the health of mother and fetus.

- ❖ At 7th month fetal lung maturity, steroids help in lung maturity of fetus. *Bruhati* on of the plant in *vidagandhadi* group, its chemical constituent are steroidal alkaloid and steroid hence this may be helpful in fetal lung maturity.¹⁷

- ❖ *SnigdhaYavagu* and *Mansa ras* is balya (give strength) and *Brimhana* specify vata dosha. Meat rich sources of protein mineral vitamin iron fat and calories. It helps in muscular tissue and blood formation.

Functions of nutrients during pregnancy-

- ❖ **Carbohydrates and fibers:** - carbohydrates form the main substrate for fetal growth, fuelling maternal and

fetal organ function, and biosynthesis and are additionally used in structural components of cells, co enzymes and DNA. Fiber affects the postprandial insulin response by influencing the accessibility of carbohydrates and nutrients to digestive enzymes thus delaying their absorption. Fibers supports maternal digestive health, providing bulk to stool and absorbing water to aid transit time. This is especially beneficial as progesterone levels in pregnancy can result in constipation by increasing relaxation of intestinal smooth muscle¹⁸.

- ❖ **Protein:-**Protein forms the building blocks for both structural and functional components of cells. Requirements are highest during the second and third trimesters due to extra development and growth of both maternal and fetal tissue. It is an alternative energy source when carbohydrate intake is insufficient therefore adequate carbohydrate intake is required in order for cell synthesis to continue. Low socioeconomic status and women with limited dietary variety are at risk of suboptimal protein intake. Plasma concentrations of most amino acids are higher in fetal circulation.
- ❖ **Fats and essential fatty acids:** - fat aids transport of fat-soluble vitamins A, K, D and E and are required for structural (e.g. membrane lipids) and metabolic functions (e.g. precursor for steroid hormones). Unsaturated fatty acids are important for neurological development including fetal brain, nervous system and retina. Oily fish, nuts, seeds, vegetable oils, margarines and green leafy vegetables are encouraged to obtain a greater intake of unsaturated fatty acids.

- ❖ **Micronutrients-** Iron and vitamin C: iron is a component of hemoglobin required for fetal development, placental growth and expansion of maternal red blood cell mass .In late pregnancy as iron transfer to the fetus becomes marked in order to meet increased demands. Deficiency has been associated with a higher risk of preterm delivery, low birth weight, infant iron deficiency and long-term cognition and brain function.
- ❖ **Vitamin C** - Iron absorption and competes for placental receptors with glucose.
- ❖ **Folate and vitamin B12:-** the prevention of neural tube defects with periconceptional folic acid is well established.
- ❖ **Vitamin D and calcium:** - vitamin D is required for immune and nervous system function and mediates the accumulation of fetal calcium from maternal stores in skeletal growth. Vitamin D deficiency can result in rickets, craniotabes and osteopenia. Calcium supplementation reduces the development of hypertensive disorders of pregnancy.
- ❖ **Iodine:** - iodine is required for fetal thyroid function and neurological development. Iodine deficiency has been linked to mental retardation and cognitive deficit.
- ❖ **A high pre-pregnancy BMI** carries adverse maternal and fetal outcomes e gestational diabetes mellitus, pre-eclampsia. Recommended weight gain during pregnancy is 11 to 15kg .weight gain in pregnancy at approximately 0.4 kg per month during first trimester. Then 0.4kg per week during last two last trimester. Obese woman might be advised to gain less than average (0.3kg) to minimize risk. If woman at high risk for nutritional deficits, a more

precise estimation of adequate weight gain calculated by body mass index¹⁹.

BMI	Recommended weight gain during pregnancy in kg(lb.)
Low (BMI <19.8)	12.5-18(28-40)
Normal(BMI 19.8-26)	11.5-16(25-35)
High(BMI>26-29)	7-11.5(15-25)

(Table no.3)

Lactation and nutrition -There is increase in energy requirement during breast feeding because of milk production. Maternal fat store are a significant source of energy. An increase in food intake can be a sources of energy to support breastfeeding. The nutritional demands of lactation are considerably greater than those of pregnancy in first 4month of post-partum, infant double their weight .milk secreted in 4month represent an amount of energy equivalent to total energy cost of pregnancy. Energy intake during first 6month is an additional 500kcal/day. Energy intake after 6month is reduced to 400kcal/day because milk production decreased. Nutritional deficiency affect the success of lactation and long term maternal and fetal health. Increase demand of vitamin and minerals. Vegetarian lactating mother recommended vitaminB12 and who avoids milk recommended vitamin D. excess blood loss during labor result in increased demand of iron and folic acid for maternal health.

- ❖ Special precaution- avoid unpasteurized juice, milk, raw sprouts, uncooked meat, alcohol (fetal alcohol syndrome) early abortion, low birth weight etc.

CONCLUSION:

- ❖ Complementary Nutrition in pregnancy requires a careful balance of both quality and quantity of intake in order to optimize foetal growth and development in addition to reducing maternal morbidity.
- ❖ Adequate diet and healthy lifestyle is paramount in creating the basis for healthy baby.
- ❖ It can be concluded that lack of dietary supplement and improper maternal nutrition leading to birth defect.it is very essential to have a closure watch over nutrition of mother to have a healthy child.

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