

ROLE OF MASANUMASIKA PATHYA TO PREVENT GARBHA SHOSHA

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ABSTRACT

Pregnancy is a state of high nutritional demand. The diet taken by the pregnant women is utilised in three ways as said by the classics - For the nourishment of pregnant women, for the production of breast milk and the proper nourishment of the foetus. So, the health and growth of the foetus depend mainly on the diet and nutrition of the mother. With this viewpoint, *garbhini paricharya* is explained. A condition in our classics has been explained as 'Garbha Shosha' where there is retarded growth of the foetus in the womb. 'Aaharamaapnothi yathaa na garbhaha' is said as the *nidana* of *garbha shosha* by Acharya Charaka which states that this condition arises where the foetus is not provided with a nutritious diet through the mother. Acharya Vagbhata points out that vitiation of 'Rasavaha Srotas' happens in the same. Acharya Bhavamishra advised *brimhana* drugs with *mamsarasa* in this condition for nutrition. Strict adherence to *masanumasika pathya* may help in preventing *garbha shosha* by promoting the growth of the foetus.

Keywords: *Garbha shosha*, Diet, Nutrition, *Brimhana*, *Masanumasika pathya*

INTRODUCTION

The pregnancy outcome is determined by various factors including the nutritional status of the mother. Supplementation of mother's diet during pregnancy may

take the form of protein, vitamins or minerals that exceed her routine daily intake¹. Fetal growth and pregnancy demand additional nutrients. In the folklore talks, it is said that pregnant women should consume

the food, taking into concern, the satisfaction of two people. This is mainly on the fact that the fetus receives its required nutrition from a pregnant woman. Apart from the natural process of embryological development, the growth and development of the intrauterine fetus are highly influenced by the amount and quality of the food intake by the pregnant woman. The Institute of Medicine has approved the dietetics a pregnant lady should follow. The elemental charts prepared on the basic requirements of various supplements are essential in substantiating the importance of maternal diet. A various number of research studies conducted on the after-effects of the deficiency of any of the required components in the fetus prove once again the importance and necessity in the selection of *ahara* of a *garbhini*. The explanation of *masanumasika pathya* includes mainly dietary assistance and this substantiates the high importance of the nutritional supplementation of the pregnant woman.

GARBHA SHOSHA

As illustrated in our classics, *garbha shosha* is resulted due to inadequate nutrient supply to the fetus (*Aaharamaapnothi yathaa na garbhaha*)¹. This causes *shosha* to *garbha*. The condition is also addressed as '*vatabhipanna garbha*'². As understood from the term, the *garbha* is afflicted by *vayu* and attains *shosha*. Due to the vitiated *vata*, the *rasavaha nadi*, the carrier of nutrition from mother to child, undergoes *shosha* interfering in the process of nutrient transfer. Thus, the *garbha* is affected adversely. Due to the restricted growth, the size of *kukshi* does not increase evident by uterine size disproportionate to the gestational age. The *spandana* will be mild which is understood as reduced fetal movements. The *vata dosha* is mainly involved in this condition which is resulted due to *kshaya* and vice versa.

INTRAUTERINE GROWTH RESTRICTION³

Intrauterine growth restriction is said to be present in babies whose birth weight is below the 10th percentile of the average for gestational age. Growth restriction can happen in preterm, term or post-term babies.

Low birthweight - < 2500g

Very low birthweight - <1500g

Extremely low birthweight - <1000g

ETIOLOGY:

The causes of fetal growth restriction can be divided into four groups: Maternal-Fetal Placental Unknown

Maternal:

Constitutional—Small women, slim, low body mass index, maternal genetic and racial background are associated with small babies. These babies are not at increased risk. Pre-pregnancy maternal weight and weight gain during pregnancy are the two most important factors for fetal birth weight.

Maternal nutrition before and during pregnancy—Critical substrate requirements for fetal growth such as glucose, amino acids and oxygen are deficient during pregnancy. This is an important cause of IUGR in women with undernutrition.

Maternal diseases: Anaemia, hypertension, thrombotic diseases, heart disease, chronic renal disease, collagen vascular disease are the important causes.

Toxins—Alcohol, smoking, cocaine, heroin, drugs.

Fetal: There is enough substrate in the maternal blood and also crosses the placenta but is not utilized by the fetus. The failure of non-utilization may be due to—

(1) Structural anomaly either cardiovascular, renal or others.

(2) Chromosomal abnormality is associated with 8–12% of growth-retarded infants. The common abnormalities are triploidy and aneuploidy. Trisomies (13, 18, 21) and Turner's syndrome are commonly observed.

(3) Infection TORCH agents (toxoplasmosis, rubella, cytomegalovirus and herpes simplex) and malaria.

(4) Multiple pregnancies—There is a mechanical hindrance to growth and excessive fetal demand.

Placental:

The causes include cases of poor uterine blood flow to the placental site for a long time. This leads to chronic placental insufficiency with inadequate substrate transfer. The placental pathology includes Placenta previa, Abruption, Circumvallate, Infarction and Mosaicism.

Unknown: The cause remains unknown in about 40%.

Table 1: Types of IUGR

Symmetrical	Asymmetrical
Body and head growth are similarly affected	Disproportionally lagging abdominal growth compared with head growth
Due to early insult during 1 st trimester	Due to late pregnancy insult
Reduction in cell size and cell number	Somatic growth shows delay while there is significant relative or absolute sparing of the head growth

IUGR results for many reasons. The main underlying pathology is placental insufficiency.

PREVENTION

Specific treatment for *garbha shosha* is illustrated in Ayurvedic classics. But the concept of *masanumasika pathya* might be very much beneficial in preventing

the restricted growth and promoting the *bala* of both *garbhini* and *garbha* not giving way for over nourishment as well.

Table 2: *Masanumasika Pathya* according to various Acharyas

Month	Charaka ⁴ / Vagbhata ⁵	Susrutha ⁶	Hareeta ⁷
I	<i>Anupasamskrutha Ksheeram</i>	<i>Madhura – sheeta- dravaprayam aharam</i>	<i>Yashtimadhu/ Parushakam/ Madhupushpa+ navaneetha & madhu+madhura payas.</i>
II	<i>Madhuroushadha siddha Ksheeram</i>	<i>Madhura – sheeta- dravaprayam aharam</i>	<i>Kakoli madhuram payas</i>
III	<i>Ksheeram with madhu sarpi</i>	<i>Madhura – sheeta- dravaprayam aharam Shashtika odanam with payas</i>	<i>Krishara</i>
IV	<i>Ksheeram with akshamaatram navaneetham</i>	<i>Shashtika odanam with dadhi Payonavaneethasamsrushtam aharam jangalamamsasahitham Hridyam annam</i>	<i>Krithodanam</i>
V	<i>Ksheera sarpi</i>	<i>Shashtika odanam with payas Payonavaneethasamsrushtam aharam jangalamamsasahitham Hridyam annam Ksheerasarpi sam-srishtam</i>	<i>Paayasam</i>
VI	<i>Madhuroushadha siddha Ksheerasarpis</i>	<i>Swadamshtrasahidha sarpis or yavagu</i>	<i>Madhuram dadhi</i>
VII	<i>Madhuroushadha siddha Ksheerasarpis</i>	<i>Prithakparnyadi siddha grutha</i>	<i>Grithakhanda</i>
VIII	<i>Ksheera yavagu sarpishmathim Asthapana and anuvasana basti (Vag)</i>	<i>Asthapana basti Anuvasana basti</i>	<i>Grithapoorakam</i>
IX	<i>Madhuroushadha siddha taila anuvasanam and pichu (Cha) Anuvasana taila pichu (Vag)</i>		<i>Vividha annaani</i>

TRIMESTER I:

In the 1st trimester, where the formation of the *garbha* starts, *pathya aharas* that will help in the intrauterine

stay of the fetus is preferred. Since the cause for IUGR includes any kind of insult in the 1st trimester (symmetrical), the *garbhini* should be keen enough to restrain

from the *ahara* and *viharas* leading to the same, and at the same time, should rely upon a beneficial diet.

Acharyas advise the usage of *Anupasamskrutha Ksheeram*, *Madhuroushadha siddha Ksheeram*, *Ksheeram* with *madhu sarpi*, *Madhura – sheeta- dravaprayam aharam*, *Shashtika odanam* with *payas*, *Yashtimadhu/Parushakam/Madhupushpa+ navaneetha& madhu+madhura payas*, *Kakoli madhuram payas*, *Krishara* during the 1st trimester.

Acharyas have profoundly advised the usage of *madhura rasa pradhana dravyas* in ante-natal care. The *madhura rasa* is *shareera satmya* and is *saptadhatu vardhana*. Hence the drugs which possess *madhura rasa* is provided along with *ksheera*, the *poshana* to both the *garbhini* and *garbha* will be sustained and helps in preventing IUGR condition. *Garbhashosha* or other similar conditions has the predominance of *vata* by which the proper growth of *garbha* is adversely affected. The *marutaghna* property leads to the prevention of *Vatavaigunya*. *Madhura rasa* is *brimhana*, by which there will be an increase in body mass. *Daha-murcha prasahamana* properties help in relieving the physical fatigue suffering by pregnant women.

Ksheera is *pathya* to all age groups. It has *madhura rasa* and it possesses all the ten *gunas* of *ojas*, which indirectly signifies that *ksheera* is beneficial in *ojovardhanam*. Even though Acharyas mention *ojas* during the later months, the importance of *ojas* from the early stage has to be understood. Since 1st trimester is the period where the *garbhini* might encounter fatigue, nausea, etc. The *murchagna jeevana gunas* can help to counteract it to an extent. *Susrutha acharya* has mentioned *garbhasrava* in the 1st trimester. This is a period where the *garbhini* will be fighting with *srama*, *glani*, *pipasa*, *tantra*, etc. The usage of *madhura-sheeta-drava praya anna* will help in restoring the dehydration signs of the woman. In the *nidana* of *upavishtaka*, *yonisrava* is included and this includes *raktasrava* also. The *garbhasrava hara* property of *ksheera* helps in preventing the occurrence of this condition. Milk is the best and most complete of all foods. Hence the usage of *ksheera* is encouraged till the completion of pregnancy. Milk is a good source of protein,

fat, sugar, carbohydrate, vitamins and minerals. As milk is a natural supplement of folic acid, the neural tube defects which are expected can also be minimized. Milk is also a source of vitamins, minerals and enzymes which are essential for fetal and maternal nourishment. The anaemia due to nutritional deficiency can be stabilized by the *panduhara* property of *ksheera*.

Both *madhu* and *sarpi* is having *yogavahi guna*. Both these have to be used in combination with *ksheera* which will help reach the properties of all three to the basic cellular level. Also, *sarpi* is *smruti, buddhi, medo vardhana*. The *sarpi*, which has a satisfying proportion of lipids, can cross the placental barrier and can have a direct effect on the *garbha*. As these are capable of crossing the blood-brain barrier, the stimulation of fetal brain tissues is made active. The administration of *sarpis* helps in increasing the *sleshma* of *garbha* as the *garbha* will be *khedabhuta* in 1st trimester which is *sleshma*. *Sarva indriyas* of the *garbha* will be developed in the 3rd month and the intake of *madhura rasa* will promote the *indriyaprasadana*. Ghee, which is rich in antioxidants aids in the absorption of vitamins and minerals from food processed with it, which is a unique quality.

As the pregnant woman is prone to morning sickness, and nausea during the 1st trimester and excessive vomiting cause deficiency of protein, energy vitamins and minerals, easily digested carbohydrate containing foods are usually tolerated best. Liquids are consumed more between meals. The *pathya* during the 1st three months satisfies these requirements.

TRIMESTER II:

Pathya aharas advised during the 2nd trimester are *Ksheeram* with *akshamaatram navaneetham*, *Ksheera sarpi*, *Madhuroushadha siddha Ksheerasarpis*, *Shashtika odanam payonavaneethasamsrushtam aharam jangalamamsasahitham Hridyam annam Ksheerasarpi samsrishtam*, *Swadamshttrasidha sarpi* or *yavagu*, *Krithodanam*, *Paayasam*, *Madhuram dadhi*

Sthiratva, *mamsa-shonita upachaya* and *bala-varna upachaya* of *garbha* happens during this period. The *ojovardhana guna* and *rasayana guna* will encompass

the symmetrical growth of all the body parts. As in asymmetrical IUGR, the abdominal circumference will be reduced than the head circumference due to the reduced size of the liver from diminished glycogen storage. The administration of *ksheera* along with *navaneetha* which is *balakaram*, *brimhana* and *sho-shagnam*, *kshayapaham* may help in preventing the incidence of asymmetrical IUGR.

The *agnideepana* property of *sarpi* along with *deepaneeya* and *aruchinashana* of *navaneetha* will promote balancing the digestion, prevents anorexia and will enable the timely consumption of food by the pregnant woman. *Garbhashosha*, which can be considered the IUGR of the progressive stage, is the result of improper nourishment and these properties of the *pathya aharas* help in facilitating the proper nourishment to the *garbha* as well.

The *karsyapaha* property of *dadhi* will help in curing the milder degrees of restricted growth of the *garbha*. Due to the rapid growth of the fetal tissues during this period, the pregnant woman will be emaciated and will become *karsya*. Hence the woman should be supplied with sufficient protein-rich food for which Acharyas suggest the usage of *mamsarasa*, *shashtika shali odana*. If the *karsyatha* of *garbhini* continues, this will eventually lead into the *shosha* of *garbha*.

As the pregnancy progresses and reach the end of 2nd trimester, the fluid circulation becomes more complicated, and the pregnant woman may result in urinary tract infections or edema of the lower limbs. *Swadamshtra*, which has the properties of *mootravirechaneeya* and *shotha hara*, helps in continuing the normal circulatory pattern preventing the incidence of these pathologies. When the drug is processed along with *sarpi*, the property of the drug is enhanced along with which a few amounts of *grutha* will also be supplemented.

TRIMESTER III: Acharya Charaka and Vagbhata advise continuing the use of *madhuroushadha siddha ksheera sarpi* during the 3rd trimester also. Even though the fetus attained *sthiratwa*, *sarvanga avayava pravyakthi bhava* during the 7th month, the nutritional demand expressed by the fetus will be more. Hence the general *ksheera* and *sarpi* which is processed with

madhura oushadhis will be helpful in continuously providing the required nutrition. *Prithakparnyadi siddha ksheera sarpi* has the *brimhana* property and facilitates the further nourishment of the fetus-in-utero. As the woman enters the 8th month of pregnancy, till delivery, there is more chance of *vata vikruti* and it may adversely affect the status of *ojas*. The *ahara* and *viharas* advised during this period are mainly to prevent *vata prakopa* and thus makes the fetus stay in-utero provided it completes the growth process without hindrance. Acharya Hareeta mentions the intake of *vividha anna* during this trimester as the women may need more strength during the tedious process of delivery.

CONCLUSION

An effort to understand the scientific concept of the *masanumasika pathya* in preventing *garbha shosha* is made here. As mentioned in the classics, the *ahara* taken by the *garbhini sthree* is beneficial in three ways; the nourishment to *garbha* and *garbhini* is the prime. The impairment in this action hinders the normal fetal growth process. Hence the *garbhini* has to plan her diet accordingly. The normal diet along with which the diets mentioned by the Acharyas which are rich in nutritious supplements will help in the proper growth of the fetus and the normal pregnancy period. Even though all the *pathyas* explained will not be able to cause a direct effect on the fetal tissues by crossing the placental barrier, these will help in improving the growth status by indirectly enhancing the health of pregnant women.

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