

Review Article

Concept of Garbha poshana – A review article

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ABSTRACT:

Womanhood is not complete without bearing a child, that's the reason women are always respected and considered very sacred for their ability to bring a new life into the world. Women are the backbone of society and the strength of the nation depends on her, if she delivers a healthy child then the quality of the nation is considered to be healthy and strong. The formation of *Garbha* happens with the union of *Shukra Shonita* in *Garbhashaya* with a descent of *Atma* and a combination of *Prakruti Vikara*. But the sustenance, growth and development of the *Garbha* happens by the nutrition provided by the mother to the growing foetus. *Garbhini paricharya* plays an important role in meeting the nutritional demand from the growing foetus. The foetus is completely dependent on its mother for its nutrition. The food consumed by the mother gets converted into *Ahara Rasa* which formed after proper digestion will reach the foetus in the form of *Upasneha* and *Upasweda*, which is considered as the essence of mother's nutrition. This essence is assimilated by the foetus as nutrition and helps in its growth and development. If a *Garbhini* follows proper *Paricharya* of *Ahara* and *Vihara* that will nourish the foetus and facilitate its normal growth and development, failing which foetus might end up in various complications. Here an attempt is made to understand the mechanism of *Garbha Poshana* that is foetal nourishment in normalcy and in its abnormalcy.

KEY WORDS: *Garbha Poshana, Upasneha, Upasweda, Nabhi Nadi, Garbha Upadrava*

INTRODUCTION:

The *Garbha* is always dependent entirely on the mother for everything as it is connected to the mother it derives nutrition for its survival, growth and development. The *Garbha* is devoid of thirst and hunger and is dependent on the mother for all its activities¹. It sleeps inside the uterus when the mother sleeps and wakes when she wakes up, inspiration, expiration, activity corresponds to that of the mother hence the activities of the *Garbha* are not independent since conception, it is dependent on the mother for its *Ahara* and *Poshana*^{2,3}. There are four factors responsible for the formation of *Garbha* that is *Rutu, Kshetra, Ambu, and Bheeja*. Here *Ambu* is said as *Ahara Paka Rasa*, which is the essence of consumed food. Once the embryo is formed its nourishment happens by *Ahara Rasa* consumed by the mother.

Aims

- To critically analyse the mechanism of *Garbha Poshana* based on the various school of thought mentioned in *Ayurveda*.

Objectives

- To understand the structures involved for *Garbha Poshana*.
- To understand the mechanism of *Garbha Poshana*.
- To understand the outcome of *Garbha* due to altered *Garbha Poshana*.

Materials: *Ayurvedic* classics, *Samhita, Samgraha Granthas*, Contemporary authors.

Methods: A review article

Conceptual Review

1. Garbha Sambhava Samagri

There are four factors essential for the formation of *Garbha*. *Rutu, Kshetra, Ambu* and *Bheeja*⁴. *Rutu* refers to the fertile period in which a woman is ovulating and able to conceive. *Kshetra* refers to a healthy reproductive system that aids in proper conception, implantation. *Bheeja* is the *Artava* and *Shukra* that are involved in the process of fertilization and shaping into an individual. *Ambu* refers to the nourishment factor obtained from the mother's *Rasa Dhatu* which

plays a vital role in the overall nourishment of the foetus aiding its growth and development.

2. *Matrujadi Shat Bhava*

Matruja Bhavas form all the soft structures in the body, *Pitruja Bhavas* form all the hard and tough structures to the body giving stability, *Atmaja Bhavas* are related to aspects of the soul, *Satmyaja Bhavas* are related to emotional and mental well-being, *Satvaja bhavas* are related to psychic factors and *Rasaja bhavas* are related to formation and development of *Shareera*, *Prana*, attachment, staying or living in the *Garbhashaya*, mainly nourishment and enthusiasm⁵.

3. For proper growth and timely delivery

Excellence in the procreative factors like *Matradi* etc., *Vrutasya Soushtatvam* that is mothers conduct in terms of intake of proper *Ahara*, *Vihara* and *Sadvritta*, proper mechanism of *Upasneha* and *Upasweda*, appropriate *Kala Parinama*, *Swabhava* are the factors that are responsible for proper growth and development of the baby and helps in timely delivery without any complications⁶.

4. *Garbhini Paricharya*

Acharya's have mentioned *Samanya Paricharya* which includes general code and conduct of a pregnant, personal hygiene, along with indicated and contraindicated food articles and *Vishsha Paricharya* includes month-wise diet regimen to meet the demands of growing foetus according to that particular month, also based on *Janghala*, *Anupa* and *Sadharana Desha* the diet has been mentioned⁷. During pregnancy, there is increased calorie requirement due to increased growth of the maternal tissues, foetus, placenta and increased basal metabolic rate. The pregnancy diet ideally should be light, nutritious, easily digestible and rich in protein,

minerals and vitamins⁸. Hence whatever food is consumed by the mother decides the physical and psychological constitution of the child and overall growth and development. Emphasizing the importance of women's diet authors have mentioned that the food consumed by the *Garbhini* is getting divided into three parts one part nourishes the mother, one part the *Sthana* for adequate lactation and one part is going to nourish the *Garbha*⁹. *Garbha* is ultimately formed by proper nourishment via *Rasa*. *Rasa* is responsible for growth, manifestation, vitality, strength, satisfaction and overall nourishment.

4. *Garbha Vyapath:*

Acharya Sharangadhara explains eight types of *Garbha Gada* they are *Upavishtaka*, *Nagodara*, *Makkala*, *Mudha Garbha*, *Vishkhambha*, *Gudha Garbha*, *Jarayudosa*, and *Garbhapata*¹⁰. Along with other factors most important *Nidana* for causing disorders in fetus is improper intake and transfer of nutrients by the mother to the growing fetus. In the context of *Dvauhrida Vimanana* if there is the involvement of minor pathology then it will lead to *Vikruti* or *Virupa* that is structural or functional anomalies of fetus, if the pathology is severe that will cause *vinasha* that is it will destroy the fetus leading to abortion or intrauterine death of fetus¹¹.

In all the above aspects emphasis is laid on *Ahara rasa* in terms of nutrition affecting the proper nutrition, growth and development of the fetus.

DISCUSSION:

Structures involved for *Garbha Poshana*

The Anatomical structures of *Garbha* are connected to the mother are in the following way¹². From *Nabhi* to *Nabhi Nadi* and from *Nabhi Nadi* to *Apara* and from *Apara* to *Matru Hridaya*.

Table No. 1: Maternal Nutrition

Maternal Nutrition		
<i>Matru Pushtyardham</i> (nourishment of mother for her own survival)	<i>Garbha Pushtyardham</i> (for the nourishment of foetus)	<i>Sthana Pushtyardham</i> (for the lactation)

Table No. 2: Structures involved for *Garbha Poshana*

Structures Involved			
<i>Nabhi</i>	<i>Nabhi Nadi</i>	<i>Apara</i>	<i>Matru Hridaya</i>
Umbilicus	Umbilical cord	Placenta	Uterus

- Mechanism of Garbha Poshana- Based on Anatomy**
- 1. Utero-Placental circulation** - *Garbha* is maintained by *Ahara Rasa* just as a tree on the banks of a pond filled with water¹³ which can be understood as placental villi or trophoblastic cells that invade the decidua drawing blood containing oxygen and nutrients from the maternal pool of blood denoting uteroplacental circulation.
 - 2. Foetal circulation** - foetal nourishment takes by *Kedara Kulya Nyaya*¹⁴. *Kedara* means field, *Kulya* means artificial canals or channels through which the blood flows passively. In the *Garbha* all the *Siras* and *Dhamani* originate from *Nabhi* and spreads in all directions. *Nabhi Mula Siras* (blood vessels) with the mechanism of *Akunchana* (contraction) and *Prasarana* (relaxation) nourishes the whole body of *Garbha*.

Table No. 3: Mechanism of Garbha Poshana – Based on Physiology

Garbha poshana			
Initial Stage (Incomplete)		Later Stage(Complete)	
<i>Upasneha</i> (absorption)	<i>Upasweda</i> (histotrophic transfer)	<i>Upasneha</i> (absorption)	
		<i>Loma kupa</i>	<i>Nabhi nadi</i> (Haemato trophic transfer)
Post fertilization	Post implantation		After placenta and umbilical cord formation

The *Garbha* derives nourishment from the mother's *Ahara Rasa* in the form of *Upasneha* and *Upasweda*¹⁵. Mothers' diet contains all the *Rasas*, thus the *Rasa* derived from the diet gives strength and complexion to the fetus. Here *Upasneha* can be understood as *Snigdhatwam*, unctuousness and *Upasweda* can be understood as *Upakleda* that is moistening and overall it can be understood as osmosis either simple/selective.

- 1. Initial stage where the development of Garbha is incomplete:** right from ejaculation of *Shukra* in *Yoni* when organs are not appreciated and until the body parts are distinct the fetus is maintained by *Upasneha* via *rasa* supplied by *Dhamani*¹⁶. During the first two months of pregnancy, the embryo consists almost entirely of water. Because of the small amount of yolk in the human ovum, the growth of the embryo-foetus from an early stage of development is dependent on nutrients obtained from the mother. During the first few days after implantation, the nutrition of the blastocyst comes from the interstitial fluid of the endometrium and the surrounding maternal tissue. Maternal adaptations are seen to store and transfer nutrients to the foetus the maternal diet is translated into storage forms that are made available to meet the demands for energy, tissue repair, and new growth, including maternal needs for pregnancy¹⁷. Very little extra nutrition needed is supplied from the tubal and uterine secretions. The mechanism involved can be understood as Absorption. Histotrophic Transfer occurs following nidation and before the establishment of Uteroplacental circulation, the nutrition is derived from eroded decidua by diffusion and later on from stagnant maternal blood in the trophoblastic lacunae.¹⁸
- 2. Later stages where all the structures are completely formed:** after the body parts are

conspicuous the nourishment is mainly by *Nabhi Nadi*. Fetal umbilicus is attached to the placenta via the umbilical cord and placenta to mother's heart. Mother's heart pools the placenta with blood through blood vessels. Mother's diet contains all nutrients and the *Rasa* thus derived renders strength and complexion to fetus. Hence the foetus sustained by the *Rasa* from mother is completely dependent and gradually develops inside the uterus¹⁹. The *Rasavaha Nadi* of mother is attached to *Garbha's Nabhi Nadi* thus the umbilical cord carries the essence of mothers *Ahara Rasa* and foetus grows by this nourishment via *Upasneha*²⁰. With the establishment of fetal circulation, nutrition is obtained by active and passive transfer that is Hematotrophic Transfer²¹.

Further adding to the above explanation in the later stage the *Ahara Rasa* which is flowing from mothers heart to placenta and from placenta to umbilical cord and then to *Nabhi* and reaches to *Pakwashaya* is metabolized by its own *Kayagni* (digestive fire) and provide nourishment²².

Mechanism involved in improper Garbha Poshana

Acharya's have mentioned few conditions such as *Upavishtaka*, *Nagodara*, *Leena Garbha*, *Upashushka*, *Garbha Shosha*, *Vatabhipanna Garbha*, and *Garbha Kshaya*²³ which have common clinical features like *Garbha Vriddhim Na Prapnoti* that is improper growth of the fetus, fetus won't fill the *Kukshi* of the mother, stays for a prolonged time inside the uterus²⁴. Here the above conditions are arising because of improper intake of nutrition by mother or improper transfer or assimilation by fetus. Can be understood as Intra - Uterine Growth retardation of fetus. Basic pathology in small for gestational age is due to reduced availability of nutrients in the mother or its reduced transfer by the placenta to the foetus. It may also be due to reduced utilization by the fetus²⁵. Reduced availability of the

nutrients to the mother can be understood as improper *Garbhini Paricharya* and *Pragjnaparadha* by *Garbhini* leading to improper formation of *Upasneha* and *Upasweda*. Reduced transfer by Placenta can be understood as a defect in *Apara* and *Nabhi Nadi*. Reduced utilization of the foetus can be understood as improper functioning of its own *Kayagni* present near *Jyothi Sthana* near *Nabhi* and improper functioning of *Loma Kupa*. While mentioning the treatment of the above conditions *Acharya's* have mentioned that if the fetus is nourished properly then it may attain proper growth and then can be delivered²⁶. This clearly emphasizes the importance of fetal nourishment for its proper growth and timely delivery without undue complications.

CONCLUSION:

Maternal nutrition directly affects the fetal outcome. The final essence of maternal nutrition is transferred to fetus in the form of *Upasneha* and *Upasweda* based on its stage of structure and organ development. This can be better understood with simile given by our *Acharya's*, first the process of a tree-drawing its nutrition from the banks of a river and Second by *Kedara Kulya Nyaya*. If this system is well established the fetus will attain its proper nourishment and grows optimally, failing which leads to the onset of various *Garbha Vyapath* causing trauma to the mother, its self, family and the nation.

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