INTRODUCTION

Optimized Foetal Development, a concept which embraces a broad set of considerations including the health of the mother before and during pregnancy; the length of gestation; the size of the new-born for his or her gestational age; whether foetal development has been disrupted; and whether the infant is exposed to a nutritional, physical and emotional environment that maximizes its potential for growth, development and a healthy life. Birth weight is affected to a great extent by the mother’s own foetal growth and her diet from birth to pregnancy, and thus, her body composition at conception. Maternal nutrition is an important factor from a

ABSTRACT

The period of intrauterine growth and development is one of the most vulnerable periods in the human life cycle. The prevalence of low birth weight (LBW) is estimated to be 28% in south Asia, 13% in sub-Saharan Africa and 9% in Latin America. Under-nutrition of a mother prior to and during pregnancy is a predominant cause of LBW. Nearly half the pregnant women suffer from varying degree of anaemia, most prevalent in India, which also has the highest number of maternal deaths in the Asia. Therefore, a mother’s perinatal health is a prime factor in a child’s intra uterine health. Ayurveda, the oldest system of medicine, has intricately described the foetal developmental milestones in Garbha Masanumasisikvriddhi and has also established the importance of GarbhiniParicharya. Ayurveda has many drugs which are used efficaciously in mother child health. Mukta is one such ratna of Ayurveda. Mukta bhasma has been described to be Vrushya, Ayushya, Hridya, Bala-buddhivardhana, etc. which makes it an excellent drug to be used in MCH. The aim of this study is to review Mukta bhasma as an all-round medicine for mother health and child development during pregnancy with reference to GarbhaMasanumasisikvriddhi described by the classical texts.

Keywords: Mukta bhasma, GarbhaMasanumasisikVriddhi, MCH,
public health point of view because it is modifiable and therefore susceptible to public health interventions. There is, therefore, an urgent need to determine ways to optimise maternal health in turn optimise the health and development of her foetus. Ayurveda describes in great detail the developmental milestones of a foetus intrauterine. The accuracy with which they have described foetal development only goes on to say that it is a science which established the “GarbhaMasanumasikVridhi”, “Garbhini-Paricharya”, “GarbhodpadakBhaava” and other such parameters after carrying out research in very large no. of population. Of which “GarbhaMasanumasikVridhi” forms the base of this study. Mukta has been described as a “PranejjRatna” its formation is also like that of a baby in a womb happening over a period of time gradually layer by layer. Mukta Bhasma has been said to have qualities such as Vrushya, Ayushya, Saumya, Hrudya, Bala Buddhhi Vardhana, etc. which make it an ideal drug to be used in mother child health from before the time of conception up to the time of delivery.

**Aim:**
The study aims at reviewing the efficacy of Mukta Bhasma as an ideal medicine for mother and child healthcare.

**Objectives:**
Primary:
- To review and correlate the efficacy of Mukta Bhasma as an ideal Ayurvedic drug for Optimal Materno-foetal health and development.
- To review classical texts for “GarbhaMasanumasikVridhi”
- To review the properties of Mukta Bhasma in various classical texts
- To review the properties of Mukta in modern perspective

**Table 1: Garbhamasanumasik Vridhi in Brihattrayi.**

<table>
<thead>
<tr>
<th>Charak²</th>
<th>Sushrut³</th>
<th>Vagbhatt⁴</th>
<th>Mukta Bhasma Properties⁵</th>
</tr>
</thead>
<tbody>
<tr>
<td>In the first month, all the prasad-bhag of all dhatus and doshas of the mother come together in the form of soft mass</td>
<td>In the first month, the foetus is in the form of a soft shapeless mass</td>
<td>Until the first week of pregnancy; the foetus remains undefined later forming a soft shapeless mass.</td>
<td>Madhurrasatmak, Sheeta-viryatmak</td>
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<tr>
<td>In the second month of pregnancy, the foetus becomes dense, if this shape resembles a circular form then it’s</td>
<td>In the second month of pregnancy, the panchamahabhutas carry out paachan and this mass becomes dense, if this shape resembles a circular form then it’s a Vrushyam, Ayushyam</td>
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</tbody>
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² Charak
³ Sushrut
⁴ Vagbhatt
⁵ Mukta Bhasma Properties
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<td>a male, if its more flat then it’s a female and if it is irregular then it’s a homosexual a transgender.</td>
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<td>if it is irregular then it’s a transgender.</td>
<td></td>
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<tr>
<td>3</td>
<td>In the third month of pregnancy, the organs start to develop.</td>
<td>The dense mass gets divided to five smaller masses, two hands, two feet and one head. The organs also start to develop.</td>
<td>In the third month of pregnancy, the organs start to develop and the foetus can experience emotions.</td>
</tr>
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<td>4</td>
<td>In the fourth month of pregnancy, the foetus becomes stable after undergoing so many early changes.</td>
<td>The dense masses now become more defined as body parts.</td>
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<td>5</td>
<td>In the fifth month of pregnancy, the blood circulates in the foetus and the baby starts gaining muscle</td>
<td>In the fifth month of pregnancy, the mind is formed.</td>
<td>In the fifth month of pregnancy, the soul enters the foetus</td>
</tr>
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<td>6</td>
<td>In the sixth month of pregnancy the Bala and Varna of fetus start to become more pronounced.</td>
<td>In the sixth month of pregnancy the intellect starts developing</td>
<td>In sixth month of pregnancy the formation of Sira, Snayu, Roma, Bala, Varna, Nakha, Twacha Starts.</td>
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<td>7</td>
<td>In the seventh month of pregnancy, the foetus becomes fully developed and is</td>
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</table>
In the eighth month of pregnancy, Oja becomes unstable and constantly transfers from mother to foetus and vice versa.

In the ninth month of pregnancy, the mother is ready to deliver the baby.

**DISCUSSION**

In the “Garbhi Paricharya” the diet prescribed contains mainly ksheer and ghrit which are a rich source of calcium. Mukta is chemically calcium carbonate and also “sensedriya” which means it is readily absorbable in the body. Pearl contains calcium, traces of magnesium, zinc, strontium, selenium, and 20-22 amino acids which are the building blocks of every living organism. Pearl powder is a natural moisturizer. Pearl contains proteins which renew the skin cells, Vitamin B complex and Polysaccharides which strengthen the muscles and the metabolism. “Garbhama nanumasikvridhikrama” describes foetal development through the nine months very intricately and mukta bhasma has all the properties required for helping the development of the foetus throughout the term of pregnancy along with safeguarding the health of the mother through its antihypertensive, antidepressant and anti-inflammatory activities.

“Garbhaposhana” is said to occur via the rasavahastrotas of the mother whose moolasthana is hriday by the “upsnehanup-swedannyaay.” Mukta bhasma helps in strengthening the rasavahastrotas by its hridya, vrushya, dipana, etc. properties. According to Vaghbhattacharya, Kapha, Pitta and Vaataare dominant in the first, second and the third trimester of pregnancy respectively. Kapha helps in providing nutrition to the foetus in the first three months to promote its proper growth. Also in the first three months, the foetus is depended on the mother for its nutrition. Hence, Mukta helps keep the Kapha of the mother in its Prakrit awastha due to its madhur and sheetagunaso that the foetus can grow properly. During the 2nd trimester, Pitta carries out pachan in the body of
the foetus and as a result of this *pachan*, *avayavas* are formed like the *Anga-Pratyangavibhaag, Hriday, Mana* and *Buddhi* in the 4<sup>th</sup>, 5<sup>th</sup> and 6<sup>th</sup> month respectively. *Mukta bhasma* due to its various *gunas* assists in these functions. In the third trimester, there is dominance of *Vaatadosha* in the body, due to which *Prakrit prasava* takes place and to avoid any complications during *prasava, vaata* needs to be balanced properly in which *mukta bhasma* is very useful.

**CONCLUSION**

Hence, through this review we may conclude that, *Mukta Bhasma* is an all-round medicine for the mother and the baby during pregnancy and plays a very important role in protecting the health of a mother and promoting the development of the baby.

Thus, *Mukta bhasma* is helpful in developing the foetus and also safeguarding the health of the mother. From the above-mentioned discussion, it can be concluded that *Mukta bhasma* is a very effective drug for optimal materno-foetal health and development.

**REFERENCES**


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