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“*GARBHOPANISHAD*”- AN ANCIENT BLUEPRINT OF HUMAN EMBRYOLOGY & DEVELOPMENT: A REVIEW

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ABSTRACT

Garbhpanishad is a Upanishad that presents a comprehensive account of human embryological development by integrating anatomical, physiological, psychological, and spiritual dimensions. This review critically analyses the embryological concepts described in *Garbhpanishad* and evaluates their relevance in relation to classical Ayurvedic literature and modern embryology through a qualitative literary review of the text along with comparative references from the Sushruta Samhita, Harita Samhita, and contemporary embryology literature. The text explains embryogenesis through the principles of *Panchamaha bhuta*, *Sapta Dhatu*, *Beeja*, and *Jeevatma*, describing the sequential stages of foetal development from Kalila (gelatinous stage) to *Budbuda*, *Pinda*, and complete foetal formation over nine months. It further discusses *linga nirvana*, *yamala garbha*, congenital anomalies, foetal consciousness, and *Sankhya Sharira* (anatomical enumeration). Several developmental milestones and concepts described in *Garbhpanishad* demonstrate notable conceptual similarities with Ayurvedic embryological doctrines and certain observations of modern embryology. Thus, *Garbhpanishad* offers a holistic and multidimensional understanding of embryogenesis that remains relevant to Ayurveda, developmental biology, prenatal psychology, and integrative medicine, highlighting the enduring significance of ancient Indian embryological knowledge in contemporary scientific discourse.

Keywords: *Garbhpanishad*, *Garbha Vigyana*, Embryology, Ayurveda, Foetal Development, Foetal Consciousness.

INTRODUCTION

Understanding the origin and development of human life has been a subject of interest since ancient times. In the Indian knowledge tradition, embryological concepts were explored not only from a biological perspective but also through philosophical and spiritual dimensions. Among the *laghu Upanishad*'s associated with the *Krishna Yajurveda*- “*Garbhpanishad*” is traditionally attributed to *Maharshi Paippalada*. the *Garbhpanishad* occupies a unique position because it provides a systematic account of human embryogenesis, foetal growth, anatomical constitution, and prenatal consciousness. Unlike many Upanishadic texts that primarily focus on metaphysical concepts, the *Garbhpanishad* integrates anatomical, physiological, psychological, and spiritual aspects of human development.

According to Ayurvedic principles, the formation of *Garbha* results from the union of *Shukra* (male reproductive element), *Artava* (female reproductive element), *Jeevatma* (individual consciousness), and *shad bhava's*. The *Garbhopanishad* elaborates these concepts and describes the sequential development of the embryo from *Kalila* and *Budbuda* stages to a fully developed fetus. It further explains the role of *Panchamahabhutas*, *Sapta Dhatus*, hereditary factors (*Beeja*), sex determination, twin formation, and congenital abnormalities. These descriptions reflect an advanced attempt to understand human development through a holistic framework.

Modern embryology explains foetal development through cellular differentiation, genetic regulation, and molecular signalling pathways. Although the theoretical foundations differ considerably, several developmental milestones described in the *Garbhopanishad* exhibit conceptual similarities with observations recorded in Ayurvedic classics such as *Sushruta Samhita*, as well as certain aspects of contemporary embryological knowledge.

Therefore, a critical appraisal of the *Garbhopanishad* is important for understanding the historical evolution of embryological thought and its relevance to integrative medicine. The present review aims to analyse the embryological concepts described in the *Garbhopanishad* and evaluate their significance in the light of Ayurvedic literature and modern embryology.

MATERIALS AND METHODS:

A qualitative literature review was conducted using *Garbhopanishad* as the main source of information. Relevant references from the *Sushruta Samhita* and standard modern embryology textbooks were also reviewed. Concepts related to foetal development, foetal consciousness, heredity, and body constitution were studied and compared to understand their similarities and relevance in both Ayurvedic and modern perspectives.

DISCUSSION & RESULT:

Garbhopanishad book studied & categorized under 5 main sections ; they are,

1. Basic Concepts of *Sharira* (Scheme of Human Anatomy)

ॐ पञ्चात्मकं पञ्चसु वर्तमानं षडाश्रयं षड्गुणयोगयुक्तम् ।

तत्सप्तधातु त्रिमलं द्वियोनि चतुर्विधाहारमयं शरीरं भवति ॥

Garbhopanishad presents a holistic concept of the human body by describing it as a combination of 5 atmakas(elements), 5 indriyas, 6 rasa (ashrayas), 6 gunas, 7 dhatus, 3 malas, 2 yonis & It is formed by 4 kinds of ahara along with the presence of Jeevatma. Unlike modern anatomy, which focuses primarily on structural organization, the text emphasizes the interrelationship between physical, physiological, and spiritual components of the body. This reflects the Ayurvedic understanding that the body is not merely a biological structure but a living entity sustained by *pancha mahabhuta Siddhanta*, *tridosha Siddhanta*, *purusha Siddhanta*, *shadrasa Siddhanta*, & *atma gunas*.

2. *Garbha Vikāsa* (Development of the Human Foetus)

एकरात्रोषितं कलिलं भवति , सप्तरात्रोषितं बुद्बुदं भवति , अर्धमासाभ्यन्तरेण पिण्डो
भवति , मासाभ्यन्तरेण कठिनो भवति

The *Garbhopanishad* provides a sequential account of embryonic development beginning from the union of male and female gametes and progressing through stages such as *Kalila*, *Budbuda*, and *Pinda* until complete foetal formation. (*kalila*)jelly like is formed by the next night after fertilization, a *budbuda* (bubble)is formed by the end of 7th night, a *pinda* of flesh is formed at 15th night, the foetus becomes *katina(hardens)* after 1st month

मासद्वयेन शिरःसम्पद्यते : the head of the foetus is formed by the end of 2nd month.

मासत्रयेण पादप्रवेशो भवति : at the end of 3rd month limbs are developed.

अथ चतुर्थे मासे जठर कटिप्रदेशो भवति :abdomen ,waist and hip region develops by 4th month.

पञ्चमे मासे पृष्ठवंशो भवति : vertebral column develops by 5th month.

षष्ठे मासे मुखनासिकाक्षिश्रोत्राणि भवन्ति : mouth, nose ,eyes, ears develops by 6th month.

सप्तमे मासे जीवेन संयुक्तो भवति : foetus is united with *jeeva* (living force) at 7th month.

अष्टमे मासे सर्वसम्पूर्णो भवति : all parts of the body are fully developed by end of 8th month.

अथनवमे मासि सर्वलक्षणसम्पूर्णो भवति : fully developed by 9th month and foetus is ready for prasava.

The month-wise description of development and foetal maturation shows remarkable observational insight . Although the terminology differs from modern embryology, several developmental milestones described in the text, parallel the stages recognized in contemporary embryology. This indicates an advanced understanding of foetal growth in ancient Indian knowledge systems. Similarities described with comparing *Sushruta Samhita* & *garbopanishad* is compared.

Table 1: comparison on *Masanu Masika Grabha Vruddhi* between *Sushruta Samhitha* & *Garbhopanishad*

Months	<i>Sushruta Samhitha</i>	<i>Garbhopanishad</i>
1 st month	<i>Kalala</i> (round mass of phlegm)	<i>Katino bhaythi</i>
2 nd month	Due to <i>paka</i> of <i>tridosha</i> along with <i>pancha mahabhutas</i> during the second month embryo becomes a solid mass, if the shape of the solid mass is like a <i>pinda</i> it develops into male if it has the shape like <i>peshi</i> then it develops into female and if has the shape like <i>arbuda</i> it develops into <i>napunsaka</i> (mainly <i>linga nirnaya</i> is explained)	<i>Shirah sampadyathe</i>
3 rd month	<i>Hashta pada shirasam pancha pindika nirvarthantho bhavathi also angapratyanga vibhagascha sukshmo bhavathi</i>	<i>Pada pravesha</i>

Month	Sushruta Samhitha	Garbhopenishad
4 th month	In this month all the body parts become predominant(<i>sarva angapratyanga pravyaktho bhavathi</i>) the foetus becomes consistent and heart statuting as <i>chetana</i> dhaatu that is atma is present in <i>hrudaya</i> and heart starts beating	<i>Jatara, kati are formed</i>
5 th month	<i>Panchame mana pratibuddhitaram bhavathi</i> (mind is formed)	<i>Prushtha, vamsa</i>
6 th month	<i>Buddhi</i> (intellectual power)	<i>Mukha, nasika, Akshi, shrotra</i>
7 th month	<i>Sarva anga pratyanga pravyaktha tara</i> (During this month all the major and minor body parts become predominant)	<i>Jeevena samyuktho bhavathi</i>
8 th month	<i>ojas</i>	<i>Sarva sampurno bhavathi</i>
9 th month	9 th ,10 th ,11 th 12 th month <i>prasava</i>	<i>Sarva lakshna sampurno bhavathi</i> (perception & cognition is fully developed) & <i>prasava</i>

One more unique concept told in *Garbhopenishad* is it states that the Seven color to constituent elements (*dhatu*s) in the body.

शुक्लो रक्तः कृष्णो धूम्रः पीतः कपिलः पाण्डुर इति ।
सप्तधातुमिति कस्मात् यदा देवदत्तस्य द्रव्यादिविषया
जायन्ते ॥.

They are white (*shukla*), red(*raktha*), opaque(*krishna*), smoke colored(*dhumra*), yellow(*peetha*) brown(*kapila*) and pale colored(*pandura*).*Garbhopenishad* uniquely describes the Sapta Dhatus through specific colours, reflecting their inherent qualities and functions. Rasa is Śukla (white), indicating purity and nourishment of the ahara rasa formed. This Shukla colour may be told because of the *accha ahara rasa* formed which is responsible for *rasa dhathu uthpatthi*.; Rakta is Rakta (red), representing vitality and circulation. Also which is the characteristic colour of blood which is visible. Mamsa is Krishna (dark), signifying structural strength and may be because of *Pruthvi mahabhuta* predominance, Meda is told as *Dhūmra* (smoky) varna , may be because of its unctuous nature combining with *agni mahabhuta* produces smoky appearance., *Asthi* is *Pīta* (yellow), may be because of yellow bone marrow which is present inside the bone & may be responsible for hardness and stability; *Majja* is *Kapila* (brownish-yellow) which may be resembling marrow tissue which is brownish- yellow in colour because of the hemopoiesis. and *Shukra* is *Pāṇḍura* (pale white), may be because of jala mahabhuta predominance and qualities of *shukra* such as *Soumya*, *Shukla* ,*sheetha* etc., denoting its refined reproductive function. These colour descriptions symbolize tissue characteristics and demonstrate an early understanding of tissue differentiation, metabolism, and physiological specialization in that era .

3. Liṅga Nirṇaya and Yugma Garbha (Sex Determination and Twin Formation)

पितृ रेतोऽतिरिक्तात् पुरुषो भवति ।
मातुः रेतोऽतिरिक्तास्त्रियो भवति ।
उभयो र्बीजतुल्यत्वान्नपुंसको भवति ॥

Garbhopasnishad explains that if father's *rethas* is predominant male baby is born, If mother's *rethas* is predominant female baby is born, If both father's & mother's gametes are equipotent then neutral gender baby will born. Which is similar to the explanation told in *Sushruta samhita*. The text discusses factors responsible for the determination of foetal sex and the occurrence of twin pregnancies and called *yamala garbha* as *yugma garbha*.

व्याकुलित मनसो ऽन्धाःखज्जाःकुब्जा वामना भवन्ति ।

अन्योन्य वायु परिपीडित शुक्रद्वैध्याद्विधा तनुः स्यात्ततो युग्माः प्रजायन्ते ॥

It explains that at the time of conception if the parents *manas* is disturbed then the baby born will be *andha*(blind), *kanja*(amelia) and *kubja* (dwarf). & When *Garbha* divides into two because of vitiated *vayu* then *yugma* or twin pregnancy occurs.

It also explains twin conception through the division of embryonic material during development. While modern genetics has established chromosomal mechanisms of sex determination and twinning, these descriptions reveal early attempts to understand heredity and variations in foetal development.

4. Mānāsika Bhāvas of the Foetus (Psychological and Spiritual State of the Foetus)

नाना योनि सहस्राणि दृष्ट्वा चैव ततो मया । आहारा विविधा भुक्ताः पीताश्च विविधाः स्तनाः

जातस्यैव मृतस्यैव जन्म चैव पुनः पुनः । अहो दुःखोदधौ मग्नः न पश्यामि प्रतिक्रियाम् ॥

वैष्णवेन वायुना संस्पृश्यते तदा न स्मरति जन्ममरणं न च कर्म शुभाशुभम् ॥

As per *Garbopanishad* the psychological state of mind is what thoughts run in the mind of foetus. what the foetus thinks about the past life is explained. The foetus thinks that it has seen thousands of wombs, it have been tasted many kinds of food.. etc. It thinks it has been often born and have often died. It has been subjected to the cycles of birth & Rebirths, it also thinks there is much suffering while living in the womb. As soon as the child is born, it comes in contact with the *Vaishnava Vāyu* (oxygen) and ceases the memory of its past lives.

It is one of the most distinctive features of *Garbhopanishad* is its emphasis on foetal consciousness and psychological development. The text states that the foetus acquires awareness during intrauterine life, remembers previous experiences, and undergoes spiritual reflection while in the womb. Such concepts highlight the importance given to prenatal mental and emotional influences. Although these views differ from modern scientific explanations, contemporary research in prenatal psychology recognizes that maternal emotions, stress, and environmental factors can influence foetal neurodevelopment, demonstrating a conceptual overlap regarding prenatal influences.

5. Saṅkhyā Śarīra (Enumeration of Body Parts)

चतुष्कपालं शिरः षोडश पार्श्व दन्तोष्ठ पटलानि सप्तोत्तरं

मर्मशतं साशीतिकं सन्धिशतं सनवकं स्नायुशतं

सप्त शिरासतानि पञ्च मज्जाशतानि अस्थीनि च ह

वै त्रीणि शतानि षष्टिशार्धचतस्रो रोमाणि कोट्यो.....

Garbhopanishad provides numerical descriptions of body structures, including bones, joints, muscles, vessels, and other anatomical components. Below is the comparison table between *Paippalada maharshi* & *Sushruta*.

Table: comparison table between Paippalada maharshi & Sushruta.

Anatomical Structure	Garbhpanishad (Paippalada Maharshi)	Sushruta Samhita (Sharira Sthana 5/6)
<i>Twacha (Skin Layers)</i>	<i>Not specifically mentioned</i>	<i>7 Twacha</i>
<i>Kala</i>	<i>Not specifically mentioned</i>	<i>7 Kala</i>
<i>Ashaya</i>	<i>Not specifically mentioned</i>	<i>7 Ashaya</i>
<i>Dhatu</i>	<i>7 Dhatus</i>	<i>7 Dhatus</i>
<i>Sira (Vessels)</i>	<i>700 Siras</i>	<i>700 Siras</i>
<i>Snayu (Ligaments/Tendons)</i>	<i>900 Snayus</i>	<i>900 Snayus</i>
<i>Mamsa (Muscles)</i>	<i>Not specified</i>	<i>500 Mamsa Peshi</i>
<i>Majja (Marrow)</i>	<i>500 Majja</i>	<i>Not separately enumerated</i>
<i>Asthi (Bones)</i>	<i>360 Asthis</i>	<i>300 Asthis</i>
<i>Sandhi (Joints)</i>	<i>180 Sandhis</i>	<i>210 Sandhis</i>
<i>Marma (Vital Points)</i>	<i>107 Marmas</i>	<i>107 Marmas</i>
<i>Dhamani (Arteries)</i>	<i>Not specified</i>	<i>24 Dhamanis</i>
<i>Dosha</i>	<i>Not specified</i>	<i>3 Doshas</i>
<i>Mala</i>	<i>Not specified</i>	<i>3 Malas</i>
<i>Srotas</i>	<i>Not specified</i>	<i>9 Principal Srotas</i>
<i>Kandara</i>	<i>Not specified</i>	<i>16 Kandaras</i>
<i>Jala</i>	<i>Not specified</i>	<i>16 Jalas</i>
<i>Kurcha</i>	<i>Not specified</i>	<i>6 Kurchas</i>
<i>Rajju</i>	<i>Not specified</i>	<i>4 Rajjus</i>
<i>Sevani</i>	<i>Not specified</i>	<i>7 Sevanis</i>
<i>Sanghata</i>	<i>Not specified</i>	<i>14 Sanghatas</i>
<i>Simanta</i>	<i>Not specified</i>	<i>14 Simantas</i>
<i>Yogavahi Srotas</i>	<i>Not specified</i>	<i>22 Yogavahi Srotas</i>
<i>Skull Bones</i>	<i>4 bones in the skull of the newborn</i>	<i>Included within Asthi enumeration</i>
<i>Tooth Buds</i>	<i>16 on each side (32 total)</i>	<i>Not separately enumerated</i>
<i>Romakupa (Hair Follicles)</i>	<i>45 million Romakupas</i>	<i>Not specified</i>

The anatomical enumeration described in the Garbhopenishad shows remarkable similarity with that of the Sushruta Samhita. Both texts mention **700 Siras, 900 Snayus, and 107 Marmas**, indicating a shared anatomical tradition. While the Garbhopenishad focuses mainly on numerical descriptions of bodily structures during fetal development and body composition, Sushruta provides a more comprehensive and systematic anatomical classification, including Twacha, Kala, Ashaya, Dhamani, Srotas, Kandara, and other structural entities. The similarities between these two classical texts highlight the continuity and consistency of anatomical knowledge in ancient Indian medical and philosophical literature.

CONCLUSION:

The *Garbhopenishad* is an important ancient text that provides valuable insights into embryology, human anatomy, and the development of the human body. It describes the formation of the embryo and enumerates various anatomical structures, many of which closely correspond with the descriptions found in *Sushruta Samhita*, including siras, snayus, marmas, and other bodily components. These similarities suggest a common foundation of anatomical knowledge in ancient Indian literature. While the *Garbhopenishad* presents these concepts within a philosophical framework, *Sushruta Samhita* offers a more systematic and clinical approach, reflecting the progressive development of Ayurvedic anatomical science.

REFERENCES

1. Garbhopenishad. In: Aiyar KN, translator. Thirty Minor Upanishads. Madras: Theosophical Publishing House; 1914.
2. Deussen P. Sixty Upanishads of the Veda. Vol. 2. Delhi: Motilal Banarsidass; 1997.
3. Radhakrishnan S. The Principal Upanishads. New Delhi: Harper Collins; 2014.
4. Murthy KRS. Sushruta Samhita. Vol. I. Varanasi: Chaukhambha Orientalia; 2017.
5. Murthy KRS. Sushruta Samhita. Vol. II. Varanasi: Chaukhambha Orientalia; 2017.
6. Murthy KRS. Ashtanga Hridaya. Vol. I. Varanasi: Chaukhambha Krishnadas Academy; 2018.
7. Murthy KRS. Ashtanga Hridaya. Vol. II. Varanasi: Chaukhambha Krishnadas Academy; 2018.
8. Tewari PV. Kasyapa Samhita. Varanasi: Chaukhambha Vishvabharati; 2013.
9. Tripathi B. Harita Samhita. Varanasi: Chaukhambha Surbharati Prakashan; 2010.
10. Sathua S. Garbha Vijnana. Varanasi: Chaukhambha Publications; 2018.
11. Moore KL, Persaud TVN, Torchia MG. The Developing Human: Clinically Oriented Embryology. 12th ed. Philadelphia: Elsevier; 2023.
12. Sadler TW. Langman's Medical Embryology. 15th ed. Philadelphia: Wolters Kluwer; 2024.
13. Larsen WJ. Larsen's Human Embryology. 6th ed. Philadelphia: Elsevier; 2021.
14. Carlson BM. Human Embryology and Developmental Biology. 7th ed. Philadelphia: Elsevier; 2024.
15. Gilbert SF, Barresi MJF. Developmental Biology. 13th ed. Sunderland: Sinauer Associates; 2023.
16. Moore KL. Before We Are Born: Essentials of Embryology and Birth Defects. 10th ed. Philadelphia: Elsevier; 2020.
17. Barker DJP. The developmental origins of adult disease. J Am Coll Nutr. 2004;23(6):588S–595S.
18. Gluckman PD, Hanson MA. Developmental Origins of Health and Disease. Cambridge: Cambridge University Press; 2006.
19. Monk C, Lugo-Candelas C, Trumpff C. Prenatal developmental origins of future psychopathology. Annu Rev Clin Psychol. 2019;15:317–344.

20. DiPietro JA. Prenatal development and foetal behavior. *Curr Dir Psychol Sci.* 2010;19(5):308–313.
21. Lecanuet JP, Schaal B. Foetal sensory competencies. *Eur J Obstet Gynecol Reprod Biol.* 1996;68(1–2):1–23.
22. Hepper PG. Foetal memory: Does it exist? What does it do? *Acta Paediatr Suppl.* 1996;416:16–20.
23. Parnia S, Fenwick P. Near-death experiences in cardiac arrest. *Resuscitation.* 2002;52(1):5–11.
24. Koch C. *The Quest for Consciousness.* Colorado: Roberts and Company; 2004.
25. Tononi G. Consciousness as integrated information. *Biol Bull.* 2008;215(3):216–242.
26. Varela FJ, Thompson E, Rosch E. *The Embodied Mind.* Cambridge: MIT Press; 2016.
27. Sharma H, Chandola HM. Ayurgenomics: A bridge between Ayurveda and genomics. *J Altern Complement Med.* 2011;17(3):209–214.
28. Patwardhan B, Bodeker G. Ayurvedic genomics and personalized medicine. *J Altern Complement Med.* 2008;14(5):571–576.

