

INTERNATIONAL JOURNAL OF UNANI AND INTEGRATIVE MEDICINE



E-ISSN: 2616-4558
P-ISSN: 2616-454X
www.unanijournal.com
IJUIM 2025; 9(3): 83-89
Impact Factor (RJIF): 6.59
Peer Reviewed Journal
Received: 21-08-2025
Accepted: 22-09-2025

Saleha Khan
PG Scholar, Department of
Kulliyat-e-Tib, Faculty of
Unani Medicine, Aligarh
Muslim University, Aligarh,
Uttar Pradesh, India

Dr. Ferasat Ali
Professor, Department of
Kulliyat-e-tib, Faculty of
Unani Medicine, Aligarh
Muslim University, Aligarh,
Uttar Pradesh, India

Dr. Arshi Riyaz
Professor, Department of
Kulliyat-e-tib, Faculty of
Unani Medicine, Aligarh
Muslim University, Aligarh,
Uttar Pradesh, India

Syed Aqib Feroz
PG Scholar, Department of
Ilmul Saidla, Faculty of Unani
Medicine, Aligarh Muslim
University, Aligarh, Uttar
Pradesh, India

Salman Ahmad
PG Scholar, Department of
Kulliyat-e-tib, Faculty of
Unani Medicine, Aligarh
Muslim University, Aligarh,
Uttar Pradesh, India

Corresponding Author:
Saleha Khan
PG Scholar, Department of
Kulliyat-e-tib, Faculty of
Unani Medicine, Aligarh
Muslim University, Aligarh,
Uttar Pradesh, India

The concept of embryogenesis with reference to philosophical and medical explorations: A review

Saleha Khan, Ferasat Ali, Arshi Riyaz, Syed Aqib Feroz and Salman Ahmad

DOI: <https://doi.org/10.33545/2616454X.2025.v9.i3b.383>

Abstract

Unani medicine offers a holistic as well as philosophical perspective on human development, emphasizing the interconnectedness of bodily structures and functions. The human body is composed of various organs, each derived from the denser part of *Akhlāt* (humours), which in turn originate from *Arkan* (basic elements). These organs are classified as simple (homogeneous) or compound (heterogeneous), with compound organs serving as instruments for complex bodily functions. Organ development, or organogenesis, is guided by the innate faculties of the body, particularly *Ruṭūbat Ghariziyya* (innate moisture) and *Ḥarārat Ghariziyya* (innate heat), which are essential for growth, sustenance, and eventual natural death. Central to Unani embryological thought is the belief that reproduction ensures species continuity and that the formation and differentiation of the human embryo are orchestrated by *Physis* (the vital force) along with transformative and morphogenetic faculties. Rooted in the balance of *Mizaj* (temperament) and the arrangement of *Arkan*, this framework highlights the status of humans as *Ashraf ul Makhluqat* (the noblest of all creatures). This study revisits classical Unani theories on reproduction and foetal development, offering valuable insights into the origins, progression, and coordination of life from conception to maturation.

Keywords: Organ development, unani medicine, embryological, organ, akhlāt (humours), humans, conception

Introduction

The Unani medical system perceives the human body as an intricate entity sustained by fundamental principles termed *Umoore Tabiya* (natural components), all orchestrated by *Tabiyat* (Physis), the body's innate regulatory force. These components include *Arkan* (Elements), *Mizaj* (Temperament), *Akhlāt* (Humours), *A'za* (Organs), *Arwah* (Vital Spirit), *Quwa* (Faculties), and *Afa'al* (Functions). These elements are essential for the body's structure, operation, and sustenance. According to Unani philosophy, maintaining equilibrium among these components is vital for health, while their imbalance results in disease. This holistic perspective underscores the interplay between the body's physical and functional elements to ensure overall well-being^[1, 2].

Hippocrates posited that semen is derived from contributions of all bodily organs, endowing it with the capacity to form every organ in the body. Post-fertilization, the zygote, despite its microscopic size, is regarded as a complete human entity in its nascent stage. Its development hinges on the uterine environment and the activation of specific inherent faculties. At this juncture, *Physis*, the guiding vital force, initiates and steers the developmental process^[3, 4].

Physis triggers *Quwwate Mughairrah Ula* (primary transformative faculty), which prepares segments of the zygote to acquire specific temperaments. Subsequently, *Quwwate Musawwirah* (morphogenetic faculty) shapes these segments, imparting distinct forms and functions. As development advances, organs receive nourishment from blood to grow and mature^[5, 6].

A scholarly debate persists regarding organ origins, with some asserting that organs stem from semen, while others argue they arise from blood. The prevailing Unani perspective maintains that organs initially form from semen and are subsequently nourished by blood. Consequently, organs are categorized as seminal (originating from semen) or sanguine (further developed through blood, e.g., muscles and fat). The differentiation of these organs results from the synergistic action of the two uterine faculties described earlier^[7-9].

The Unani Perspective on the Necessity of Reproduction for Species Survival

In Unani medicine, the human lifespan is inherently finite, determined by the presence of Ruṭūbat Ghariziyya (innate moisture) and Ḥarārat Ghariziyya (innate heat), both inherited from parents ^[10]. At birth, individuals possess a finite quantity of innate moisture, which gradually diminishes with age ^[11]. The eventual exhaustion of Ruṭūbat Ghariziyya leads to the extinction of Ḥarārat Ghariziyya, the vital warmth sustaining life, resulting in what Unani scholars term Ṭabīʾī or Ḥaqīqī Maut (natural or true death) ^[10, 11].

Reproduction and adaptation are critical for the continuity of human life on Earth. These processes enable the perpetuation of generations and ensure the survival of the human species ^[12].

The Role of Arkān in the Structure of Life

Unani scholars propose that the human body's formation begins with the interaction and amalgamation (imtizaj) of fundamental components (Ajzae Aulia) present in Mawaleed-e-Salasa, the three categories of natural entities (animals, plants, and minerals). This interaction produces biological molecules (Uzvi Murakkabat), which combine to form minute structures (Aza-e-Daqeeqa). These minute structures further unite to create simple organs (Aza-e-Mufridah), which, in turn, integrate to develop compound organs (Aza-e-Murakkaba), ultimately forming the complete human body ^[13].

In *Al-Qanoon fi'l Tibb*, Ibn Sina elucidates that simple organs (Aza-e-Mufridah) arise from the blending of the four humors, which themselves originate from the interaction of the four fundamental elements (Arkān): Arḍ (earth), Mā' (water), Hawā (air), and Nār (fire) ^[14].

Rabban Tabri emphasizes that human survival depends on the *Arkān-e-Arba* (four elements). He explains that humans inhale air from the environment, consume water, and ingest foods like fruits, vegetables, and grains, which contain earthy and fiery elements. Through metabolic processes, these elements are transformed into humors within the body ^[15].

In Unani philosophy, the universe comprises Mawālīd Thalātha (three matters) animals, plants, and minerals all formed from the four Arkān: earth, water, air, and fire. These elements serve as the foundational building blocks of existence. The human body, composed of these Arkān, has organs with specific elemental proportions tailored to their functions. The balanced interplay of these elements within the body is believed to confer humans a distinguished status as the pinnacle of creation ^[16].

Aristotle's framework of four causes, applied to human creation and the Mawālīd Thalātha, includes

1. **Asbab-e-Maddiya (Material Cause):** The substances forming the human, such as the female ovum and menstrual blood.
2. **Asbab-e-Faila (Efficient Cause):** The agent of creation, represented by the male sperm.
3. **Asbab-e-Sauriya (Formal Cause):** The shaping force

that molds matter, influenced by the body's temperament (Mizaj) and natural faculties (Quwa).

4. **Asbab-e-Tamamiya (Final Cause):** The purpose of creation, which is the formation of the embryo ^[3, 17]

These causes collectively describe the holistic process of human formation, connecting it to the universe through the harmonious balance of the essential elements.

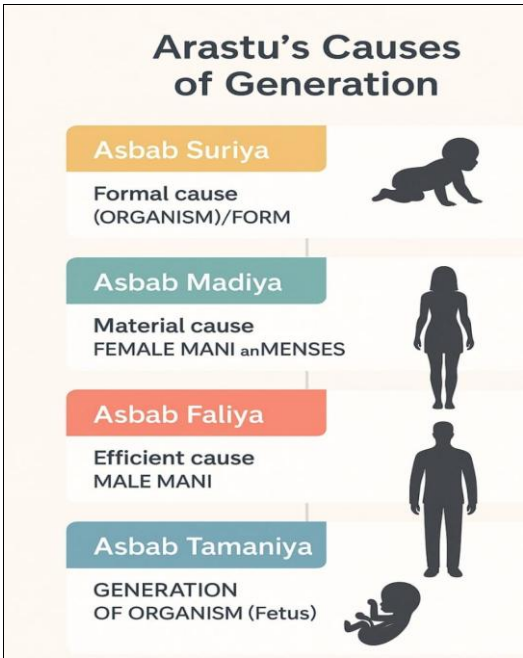


Fig 1: Aristotle's concept of the four causes

Why Humans Are Called Ashraf ul Makhluqat (The Noblest of All Creatures)

In Unani medicine, human creation begins with the interaction of the four primary qualities Ḥarārat (heat), Burūdat (cold), Ruṭūbat (moisture), and Yubūsat (dryness) embedded within the Arkān (fundamental elements). These qualities combine to form Mizaj (temperament), which subsequently shapes Surat Naw'iyya (specific form), followed by the establishment of Ṭabīʾat (nature) and essential faculties (Quwa) ^[18]. The Arkān earth, water, air, and fire act as the foundational components of all entities in the universe, including humans ^[18].

The human temperament (Mizaj Insani) is regarded as nearly Mu'tadil Ḥaqīqī (truly balanced), which elevates humans to the status of Ashraf ul Makhluqat, or the noblest of creation ^[19]. Additionally, the reproductive substance (Madda Manwiyya), composed of these elements, is considered the cornerstone of human life generation. Various theories in Unani medicine describe the origin and nature of seminal fluid (Mani, or Sperma in Greek), highlighting its critical role in human development ^[20].

Theories of Embryo Formation

The following table-1 summarizes ancient theories on embryo formation in

Table-1: Ancient Theories About How Embryos Formed

Number of Seeds	Corporeal Origin	Developmental Mechanism
Monogenesis (One-seed)	Encephalo-myelogenic (Brain and spinal cord)	Preformationism (Offspring preformed in miniature)
Duo-genesis (Two-seed)	Pangenesis (All body parts)	Epigenesis (Gradual development from undifferentiated mass)
	Haematogenous (Blood-based)	

1. One-Seed Theory

Aristotle, in *On the Generation of Animals*, argues that male semen solely initiates fetal formation, while female menstrual blood and reproductive fluid primarily provide nourishment, not structural contribution [20].

2. Two-Seed Theory

Hippocrates, in *On the Nature of the Child*, posits that both male and female reproductive fluids are essential for embryonic development. This view, later endorsed by Galen and Herophilus, suggests that female Mani contributes to fetal development by imparting motion [20].

3. Encephalo-Myelogenic Theory

Alcmaeon proposed that Mani originates from the brain and bone marrow, emphasizing a neurological and skeletal origin for reproductive material [20].

4. Pangenesis

Democritus and Anaxagoras theorized that reproductive fluid derives from all body parts, particularly A'ḍā' Mufrada (simple organs), implying a holistic contribution from the body to reproduction [20].

5. Haematogenous Theory

Rabban Tabari suggested that Mani is a refined form of blood, presenting it as a concentrated and purified blood derivative essential for reproduction [20].

6. Preformation Theory

This theory posits that the embryo exists fully formed in miniature within reproductive cells, merely requiring growth to develop all parts [20].

7. Epigenesis

Supported by Aristotle and Galen, epigenesis describes embryonic development as a gradual process of differentiation from an initially unstructured gamete, forming progressively over stages [20, 21, 22, 23].

These theories reflect diverse perspectives on how life begins and how the embryo takes shape, offering insight into early ideas on human development.

The Role of Mani in Human Embryogenesis and Sex Determination

In Unani medicine, Mani (seminal fluid) is pivotal to human embryogenesis. Ibn al-Qayyim posits that both male and female reproductive fluids possess the intrinsic ability to initiate and sustain life creation. These fluids encapsulate contributions from various parental body parts, embodying their diverse components [24]. Masīhī emphasizes that a woman's role in early pregnancy extends beyond merely receiving sperm; she actively participates in zygote formation (Nutfasazi) as an equal contributor [25]. Unani scholars, or Atibba, describe Mani as Mutashabiha al-Imtizaj a substance that appears uniform but comprises distinct, specialized elements. It is regarded as the refined essence of A'ḍā' Mufrada (individual organs) from both parents. Furthermore, Mani was integral to early Unani theories on fetal sex determination [24].

Unani Perspectives on Sex Determination

Unani scholars outline three primary principles governing embryonic sex determination. The first principle associates

fetal sex with the body's laterality. If male Mani from the right testicle combines with female Mani and implants in the right uterine side, a male fetus is more likely; the converse favors a female fetus [26].

The second principle links sex to the temperament (Mizaj) of Mani. A hot and dry temperament predisposes the fetus to maleness, while a cold and moist temperament favors femaleness [27]. The third principle suggests that, although both male and female Mani contribute to zygote formation, the more dominant fluid during development determines the embryo's sex [27].

The Role of Mizaj in Embryonic Development

Influence of Mizaj on Form, Nature, and Growth

In Unani medicine, Mani (reproductive fluid) comprises the fundamental elements (Arkān). When male and female reproductive fluids combine, their elements merge to create a unique quality distinct from either parent, known as the Mizaj (temperament) of the zygote. This Mizaj forms the basis for the development of Surat (form), followed by the emergence of Tabi'at (nature) and Quwa (faculties), which regulate the fetus's physiological functions and growth. Notably, Surat, Tabi'at, and Quwa are not mere extensions of Mizaj but are continually shaped by its influence throughout development [28].

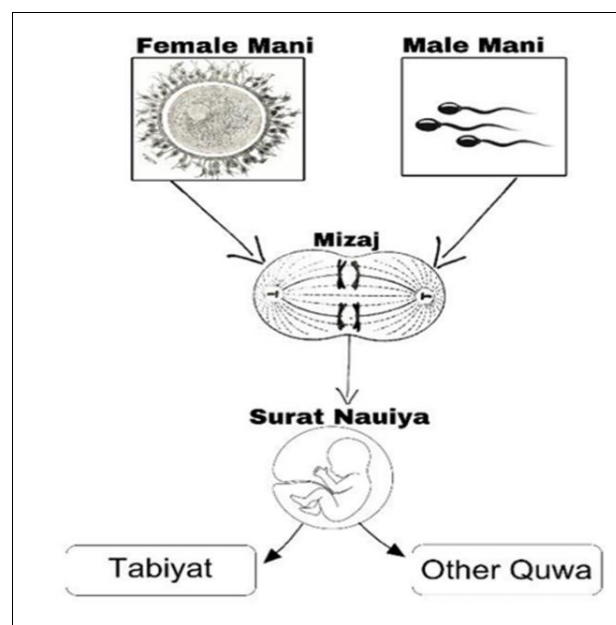


Fig 2: Formation of mizāj, sūrat, and quwa

Reproductive Vitality in Unani Medicine

The reproductive faculty, Quwwat Tanasuliyya, is a critical force in Unani medicine, governing the entire reproductive process in both genders. It manages the production, storage, and release of Mani, facilitating fertilization, early cell division, and uterine implantation. As a subset of Quwwat Ṭabi'iyya (natural faculty), it is essential for life's continuation and species survival [28]. Two sub-faculties support this process: Quwwat Muwallida (generative faculty), which initiates reproductive processes by producing Mani, and Quwwat Muṣawwira (formative faculty), which shapes the embryo [28].

Quwwat Muwallida (Generative Faculty)

Quwwat Muwallida is responsible for generating Mani in

both parents, ensuring its components are primed to contribute to specific organ development during embryogenesis [28].

Quwwat Muṣawwira (Formative Faculty)

Quwwat Muṣawwira governs the shaping and development of embryonic organs, determining their size, shape, texture (e.g., smooth or rough), and structural features like cavities. It also orchestrates the spatial arrangement of organs for proper placement and alignment [28].

Both faculties are innate, operating naturally to support growth and development.

Process of Embryogenesis

In the Unani system, embryogenesis begins during the "fertile window," a period shortly after the menstrual cycle when conception is possible. If male Mani (sperm) enters

the uterus and combines with female Mani, it forms the Nutfa, the embryo's initial stage [29]. Majusi outlined four vital faculties involved in this process

1. **Quwwat Jāziba:** Attracts male Mani into the uterus, enabling fertilization.
2. **Quwwat Māsika:** Secures the embryo in the uterus, keeping the cervical opening closed until the fetus is fully developed.
3. **Quwwat Mughayyira:** Manages fertilization, cell division, and differentiation, guiding early embryonic growth.
4. **Quwwat Dāfi'a:** Facilitates fetal expulsion at the end of pregnancy, initiating childbirth [28, 29].

These faculties work in harmony to nurture and bring forth new life from conception to birth.

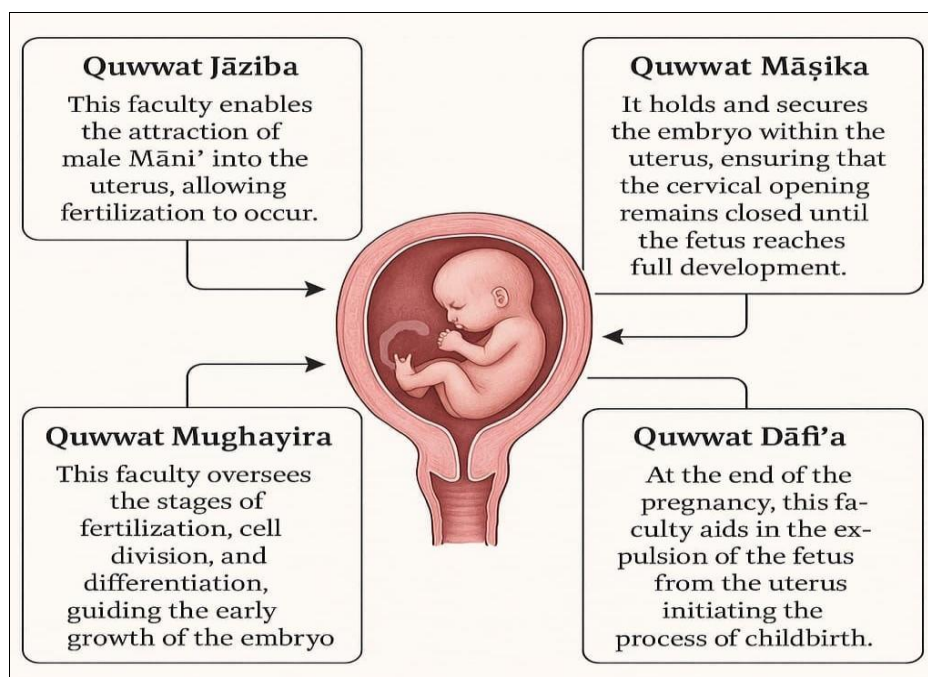


Fig 3: The four essential faculties involved in embryogenesis, according to USM

Unani Perspective on Embryogenesis: From Mani to Organ Formation

In Unani medicine, embryogenesis commences with the release of male and female reproductive fluids, known as *Mani*, into the vaginal canal, where they travel toward the fallopian tube. The male *Mani*, characterized by its inherent warmth and activity, actively progresses to meet and fuse with the female *Mani* in the fallopian tube. This union stimulates the *Quwwat Māsika* the uterus's retentive faculty ensuring that the fertilized *Mani* remains securely implanted.

Following this, the *Quwwat Muṣawwira* (formative faculty) and the body's innate warmth, or *Hararat*, start to act on the fertilized *Mani*. This interaction gives rise to a bubble-like structure known as *Zubda* or *Hubab*, sometimes also called *Fain* by the Unani scholars (*Atibba*). This structure is unique because it contains three vital spirits, or *Rūḥ*: *Rūḥ Ḥaiwani* (animal spirit), *Rūḥ Nafsanī* (psychic spirit), and *Rūḥ Ṭabī'ī* (natural spirit).

The *Quwwat Muṣawwira* then directs these spirits to specific regions within the developing embryo. Each spirit guides and supports the formation of corresponding organs,

setting the foundation for organized growth. In this way, the *Rūḥ* in each area remains actively involved, guiding the process of organ development as the embryo takes shape [30].

Embryonic Organogenesis: From Swellings to Vital Organs

Development of Vital Organs

In Unani medicine, the *Quwwat-e-Musawwira* (formative faculty) orchestrates the placement of vital spirits, guiding the formation of specific organs. The heart occupies the central position. To its right and slightly higher, two cavities emerge: the right cavity, filled with dense blood, develops into the liver, while the upper cavity, containing whitish blood, forms the brain. Air subsequently enters this upper cavity, facilitating the delivery of blood and spirit to the fetus, which contributes to the formation of the umbilical cord [31-34].

Formation of Fetal Membranes and the Umbilical Cord

During embryogenesis, the semen settles in the uterus, transforms into a frothy consistency, and then solidifies. A membrane, believed to originate from the female

reproductive fluid, forms alongside vessels called Mashima, which absorb nutrients for the embryo. Initially thin due to the embryo’s minimal nutritional needs, this membrane later divides, giving rise to additional membranes. The Mashima vessels converge to form two arteries and two veins, which eventually consolidate into the umbilical cord. Although vital organs take shape before the umbilical cord, their

functionality depends on its formation [31-34]. In early development, the embryo has two umbilical arteries and two umbilical veins, which later merge into one artery and one vein. These vessels, embedded within the placental tissue, are crucial for supplying oxygen and nutrients to the developing fetus [35].

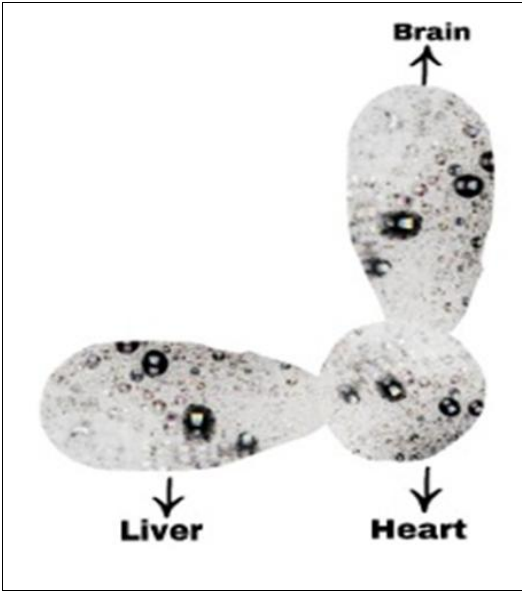


Fig 4: Formation of vital organs

Aristotle vs. Galen and Hippocrates: The Origins of First Organ Formation

Unani scholars have debated the identity of the first organ to form in the fetus. Aristotle argued that the heart is the initial organ to develop, serving as the core of life and the source of vital heat. It supplies Ruḥ (spirit) and nourishment to other organs, such as the liver and brain. He further posited that the brain forms next, acting as the center of sensory perception and nerve-mediated movement. Aristotle emphasized that the first organ to emerge is the one responsible for life, sensation, and motion.

In contrast, Hippocrates contended that the brain and eyes are the first to form. Drawing from observations of chick embryos, he noted that the brain and eyes are visible before other structures, such as the heart, when examining a broken egg yolk [36]. Some scholars, however, propose that the liver forms first, as it is central to tagziyah (digestion and

assimilation), the body’s initial function [37].

Phases of Embryonic Development in Unani Medicine

Unani medicine delineates distinct stages of embryonic development, each with specific terminology. The process begins with the Zubda stage, where the mixing of male and female Mani (reproductive fluid) forms a bubble-like structure called Ḥubab. This is followed by the ‘Alqa stage, during which blood and Ruḥ (life force) enter the Zubda. The third stage, Muzgha, marks the complete differentiation of essential organs. Finally, the Janin stage represents the fully formed fetus, resembling a human with matured organs. According to Unani tradition, this developmental sequence concludes within 35 to 45 days. The fetus then continues to grow in the womb until birth occurs at the end of the gestational period. [38, 39, 40, 41, 42, 43].

Table 2: The chronological progression of stages in embryonic development

Stage (Arabic)	Meaning	Description	Timeframe (Approx.)	Scientific Correlation
Zubda	A drop of fluid	Formed by the mixing of <i>Mani</i> (reproductive fluid) from both parents, resulting in a bubble-like structure called <i>Hubab</i> .	Days 1-6 (before implantation)	Fertilization to implantation
Alaqah	Clinging/leech-like substance	The froth transforms into a blood clot (<i>alaqah</i>), and development continues	15 Days	Implantation & early embryonic attachment
Mudghah	Chewed-like lump of flesh	The clot turns into lumps of flesh (<i>mudghah</i>), gradually thickening	Around Days 15-30	The embryo shows primitive body segmentation
Janin	<i>Aizā-e-rayīṣah</i> Organ Differentiation	Refers to the fetus; all organs are completely developed and matured, and it resembles a human being.	Completed in 35-45 days	Spiritual development; not scientifically measurable

Predicting the Timing of Labor and Delivery

In Unani medicine, the formation of a human fetus is typically completed within 40 to 45 days, though this period may vary, being shorter for male fetuses and longer for

female fetuses [44]. Hippocrates observed that signs of male fetal formation appear by day 30, while female fetal formation becomes evident by day 40. He attributed the faster development of male fetuses to the warmer, stronger

nature of the semen, allowing completion in approximately 30 days, compared to the cooler, less potent semen forming female fetuses, which requires around 40 days ^[44]. The full formation of a fetus ranges from a minimum of 30 days to a maximum of 45 days ^[45].

Hippocrates noted that miscarriages before 30 days typically involved male fetuses, while those after 40 days involved female fetuses, with no recorded instances of female fetuses miscarrying before 40 days ^[44]. He further proposed that a

fetus completing its form by day 35 begins moving around day 70 and is likely born around day 210 (seventh month of pregnancy). In contrast, a fetus formed by day 45 starts moving by day 90 and is born around day 270 (ninth month) ^[44].

Hippocrates' general principle suggests that fetal movement begins after double the number of days required for form completion, and birth occurs after triple the number of days taken to initiate movement ^[44].

Table 3: Projected delivery date based on USM

Predicting the Timing of Labor and Delivery		
Category	Male fetus	Female fetus
Formation of surat	35 days	40 days
Movement/ Quickening	70 days	80 days
Delivery	210 days	240days
Hararat		

The Process of Natural Birth: Factors Leading to Fetal Expulsion

In Unani medicine, *Ibn Sina* describes the uterus as richly innervated, enabling it to stretch, contract, and exert force. During pregnancy, the uterus expands significantly to accommodate the growing fetus. At childbirth, it contracts vigorously to facilitate delivery, then shrinks post-birth. Consequently, the uterus of a young girl is smaller than that of a woman who has given birth ^[46].

Birth is initiated when the placenta can no longer sufficiently nourish the fetus, prompting it to move outward. Simultaneously, the rupture of fetal membranes releases a lubricating fluid that irritates the uterine lining, activating the *Quwwat Dāfiya* (expulsive faculty). This faculty triggers uterine contractions, culminating in the delivery of the child ^[47]. The mother's expulsive force, combined with divine influence, supports this process. Typically, birth occurs around the seventh month of pregnancy. However, if the uterus lacks sufficient strength, the fetus may remain until the ninth month. In some cases, delivery occurs in the eighth month, resulting in a weaker infant ^[47].

Conclusion

This review elucidates the profound philosophical and medical underpinnings of embryogenesis in Unani medicine, drawing from classical texts and scholarly debates to illustrate a holistic framework for human development. Central to this paradigm is the interplay of foundational elements—*Arkan*, *Mizaj*, *Akhlat*, and *Quwa*—orchestrated by *Tabiyat* (Physis), which governs the transformation from seminal fluid (*Mani*) to a fully formed fetus. Ancient theories, ranging from monogenesis and pangenesis to epigenesis, underscore the diverse intellectual heritage informing Unani embryology, while concepts such as the formative faculties (*Quwwat Musawwira* and *Quwwat Mughayyira*) and the role of innate heat and moisture highlight the body's innate intelligence in ensuring species continuity and individual maturation.

By revisiting these principles, this study reaffirms the Unani view of humans as *Ashraf ul Makhluqat*, distinguished by a balanced temperament that integrates material, efficient, formal, and final causes in creation. The delineated stages of embryonic development from *Zubda* to *Janin* and insights into sex determination, organogenesis, and labor timing offer timeless perspectives that bridge ancient wisdom with contemporary inquiries into reproductive biology.

Ultimately, Unani embryology not only enriches our understanding of life's origins but also invites

interdisciplinary dialogue between traditional systems and modern science. Future research could explore empirical validations of these concepts through comparative studies, potentially uncovering novel therapeutic applications in reproductive health and developmental disorders. In an era of advancing biomedical technologies, the enduring emphasis on harmony, vitality, and natural faculties in Unani medicine serves as a reminder of the interconnectedness of body, spirit, and cosmos in the miracle of human life.

References

- Kabiruddin HM. *Tarjuma wa Sharah Kulliyāt Qānūn*. Vol. 1&2. New Delhi: Ajaz Publishing House; 2006. p. 22-23.
- Shah MH. *The General Principles of Avicenna's Canon of Medicine*. New Delhi: Idāra Kitāb al-Shifa; 2007. p. 14, 47-48, 51-52, 54.
- Belo C. *Chance and Determinism in Avicenna and Averroes*. Boston: Brill; 2007. p. 55-90.
- Ibn Sīnā AAH. *Al-Qānūn fi'l Tibb* (Urdu Translation by Ghulām Ḥasnayn Kintūrī). Vol. 1. New Delhi: Idāra Kitāb al-Shifa; 2010. p. 38-39, 83-84.
- Baghdādī MAH. *Kitāb al-Mukhtārāt fi'l Tibb* (Urdu Translation by CCRUM). Vol. 1. New Delhi: CCRUM, Ministry of H&FW; 2004. p. 73-75, 105-106.
- Masīhī AS. *Kitāb al-Mi'a* (Urdu Translation by CCRUM). New Delhi: CCRUM; 2008. p. 127-128.
- Jurjānī SIH. *Dhakhīra Khawārizm Shāhī* (Urdu Translation by Hādī Ḥusayn Khān). Vol. 1. New Delhi: Idāra Kitāb al-Shifā; 2010. p. 113-114, 116-117.
- Majūsī AI. *Kāmil al-Ṣanā'a al-Ṭibbiyya* (Urdu Translation by CCRUM). Vol. 1. New Delhi: CCRUM; 2010. p. 296-297.
- Al-Khujandi FM. *Al-Talwīh ila Asrār al-Tanqī* (Urdu Translation by Abdul Bārī Falāhī). New Delhi: New Print Centre; 2008. p. 44-45, 125.
- Itrat M, Haque N. Concept of Aging in Unani Medicine. *Int J Res Ayurveda Pharm*. 2013;4(3):459-462.
- Ahmad P, Ishtiyaque S. *Kulliyat-e-Asri*. Vol. 1. Delhi: New Public Press; 1982. [in Urdu]. p. 509.
- Kabiruddin HM. *Ifada-i-Kabir*. 2nd ed. New Delhi: CCRUM; 2021. p. 50.
- Majoosi AHAI. *Kamilussana* (Urdu translation by Gulam Hasnain Kantoori). New Delhi: Idara-e-Kitab-us Shifa; 2010. p. 60-70.
- Mohd Unwan AQY. *Tibbe Unani mai Ilme Junain Ka*

- Tasawwur*. Unimed, Kuliyat. 2005-06.
15. Hkm Syed Kamal UH. *Usool e tibb*. Lahore: Idara Ishaat Tib; 2005. p. 70-77.
 16. Kirmani BNA. *Tarjuma wa Sharah Kuliyat-e-Nafisi*. Vol. 1. Translated from Urdu by H.M. Kabiruddin. New Delhi: Daftarul Masih, Qarol Bagh; 1935. p. 13.
 17. Shah MH. *The General Principles of Avicenna's Canon of Medicine*. New Delhi: Idāra Kitāb al-Shifa; 2007. p. 45.
 18. Rushd I. *Kitabul Kuliyat*. New Delhi: CCRUM; 1987. [in Urdu]. p. 37.
 19. Ahmed SI. *Introduction to Al-Umūr Al-Tabiyyā*. New Delhi: Saini Printers; 1980. p. 28.
 20. Flemming R. One-seed, two-seed, three-seed? Reassessing the fluid economy of ancient generation. In: Bradley M, Leonard V, Totelin L, editors. *Bodily Fluids in Antiquity*. 1st ed. London and New York: Routledge; 2021. p. 158-172.
 21. Wilberding J. Forms, souls, and embryos: Neoplatonists on human reproduction. London: Routledge; 2016. p. 58-60.
 22. Roe SA. Matter, life, and generation: Eighteenth-century embryology and the Haller Wolff debate. Cambridge: Cambridge University Press; 2003. p. 31-35, 43, 44, 91-92, 112-113.
 23. Needham J, Hughes A. *A history of embryology*. Cambridge: Cambridge University Press; 2015. p. 31-71.
 24. Masīhī AS. *Kitāb al-Mi'a fi'l Tibb*. Vol. 1. New Delhi: CCRUM; 2008.
 25. Qadeer A. *History of Medicine and Medical Ethics*. 3rd ed. New Delhi: Department of Kuliyat, Faculty of Unani Medicine, Jamia Hamdard; 2005.
 26. Abu al-Hasan Ali ibn Sahl Rabban al-Tabari. *Firdaws al-Hikma fi'l Tibb*. Vol. II. Translated from Urdu by H. M. Anwar Shāh Sanbhalī. Deoband, India: Faisal Publications; 2002. p. 46.
 27. Bradley M, Leonard V, Totelin L, editors. *Bodily Fluids in Antiquity*. New York: Routledge; 2021. p. 145.
 28. Ahmed SI. *Introduction to Al-Umūr Al-Tabiyyā*. New Delhi: Saini Printers; 1980. p. 185-188.
 29. Ibn Abbas MA. *Kamil al-Şana al-Ṭibbiyya*. Translated from Urdu by Gh. H. Kinturi. Vol. 1. New Delhi: Central Council for Research in Unani Medicine, Dept. of AYUSH, Ministry of Health & Family Welfare, Govt. of India; 2010. [in Urdu]. p. 44-48.
 30. Ibn Sina (Avicenna). *Al-Qanun fi al-Tibb* (Urdu translation by Gulam Hasnain Kantoori). Vol. 3. New Delhi: Idāra Kitāb al-Shifā; 2010. p. 1060.
 31. Ibn Abbas MA. *Kamil al-Şana al-Ṭibbiyya*. Translated from Urdu by Gh. H. Kinturi. Vol. 1. New Delhi: Central Council for Research in Unani Medicine, Dept. of AYUSH, Ministry of Health & Family Welfare, Govt. of India; 2010. [in Urdu].
 32. Jurjani AH. *Zakhira Khwarzam Shahi*. 1st ed. New Delhi: Idara Kitab-us-Shifa; 2010. p. 602-607.
 33. Avicenna. *Al-Qānūn fi'l Tibb*. Translated from Urdu by Gh. H. Kintūrī. Vol. 1. New Delhi: Idāra Kitāb al-Shifa; 2010. p. 1060.
 34. Hubal I. *Kitabul Mukhtarat Fil Tibb*. Translated from Urdu by CCRUM. Vol. III. New Delhi: CCRUM; 2005. [in Urdu]. p. 77.
 35. Rabban Ṭabarī AḤAS. *Firdaws al-Hikma fi'l Tibb*. Vol. II. Translated from Urdu by H. M. Anwar Shāh Sanbhalī. Deoband, India: Faisal Publications; 2002. p. 42-43.
 36. Avicenna. *Al-Qānūn fi'l Tibb*. Translated from Urdu by Gh. H. Kintūrī. Vol. 1. New Delhi: Idāra Kitāb al-Shifa; 2010. p. 1060.
 37. Hubal I. *Kitabul Mukhtarat Fil Tibb*. Translated from Urdu by CCRUM. Vol. I. New Delhi: CCRUM; 2005. p. 76.
 38. Rabban Ṭabarī AḤAS. *Firdaws al-Hikma fi'l Tibb*. Vol. II. Translated from Urdu by H. M. Anwar Shāh Sanbhalī. Deoband, India: Faisal Publications; 2002. p. 43.
 39. Ibn Abbas MA. *Kamil al-Şana al-Ṭibbiyya*. Translated from Urdu by Gh. H. Kinturi. Vol. 1. New Delhi: Central Council for Research in Unani Medicine, Dept. of AYUSH, Ministry of H&FW, Govt. of India; 2010. p. 156-158.
 40. Jurjani AH. *Zakhira Khwarzam Shahi*. 1st ed. New Delhi: Idara Kitab-us-Shifa; 2010. p. 602-607.
 41. Avicenna. *Al-Qānūn fi'l Tibb*. Translated from Urdu by Gh. H. Kintūrī. Vol. 1. New Delhi: Idāra Kitāb al-Shifa; 2010. p. 1060.
 42. Hubal I. *Kitabul Mukhtarat Fil Tibb*. Translated from Urdu by CCRUM. Vol. III. New Delhi: CCRUM; 2005. p. 70.
 43. Rabban Ṭabarī AḤAS. *Firdaws al-Hikma fi'l Tibb*. Vol. II. Translated from Urdu by H. M. Anwar Shāh Sanbhalī. Deoband, India: Faisal Publications; 2002. p. 42-43.
 44. Abu al-Hasan Ali ibn Sahl Rabban al-Tabari. *Firdaws al-Hikma fi'l Tibb*. Vol. II. Translated from Urdu by H. M. Anwar Shāh Sanbhalī. Deoband, India: Faisal Publications; 2002. p. 43-44.
 45. Hubal I. *Kitabul Mukhtarat Fil Tibb*. Translated from Urdu by CCRUM. Vol. I. New Delhi: CCRUM; 2005. p. 74.
 46. Mazenganya P, Bhikha R. The genitourinary and reproductive systems: Interpretation of Avicenna's (980-1037 AD) treatise in the Canon of Medicine. *Morphologie* [Internet]. 2020 Sep 14;104:199-201. Available from: <https://doi.org/10.1016/j.morpho.2019.12.002>
 47. Saifullah. Abortus dan Permasalahannya: Suatu Kajian Hukum Islam. In: Yanggo CT, Anshary AZ, Hafiz A, editors. *Problematika Hukum Islam*.

How to Cite This Article

Khan S, Ali F, Riyaz A, Feroz SA, Ahmad S. The concept of embryogenesis with reference to philosophical and medical explorations: A review. *International Journal of Unani and Integrative Medicine* 2025; 9(3): 83-89.

Creative Commons (CC) License

This is an open access journal, and articles are distributed under the terms of the Creative Commons Attribution-Non-Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) License, which allows others to remix, tweak, and build upon the work non-