



---

## Holy Quran, New Sciences and Development of Human Embryo

**Corresponding Author:**

Dr. Mahdi Esmailzadeh,  
Faculty Member, Department of Basic Science, Shirvan Branch, Islamic Azad University, Shirvan, Shahryar St,  
94617 - Iran (Islamic Republic of)

**Submitting Author:**

Dr. Mahdi Esmailzadeh,  
Faculty Member, Department of Basic Science, Shirvan Branch, Islamic Azad University, Shirvan, Shahryar St,  
94617 - Iran (Islamic Republic of)

**Article ID:** WMC002260

**Article Type:** Research articles

**Submitted on:** 26-Sep-2011, 09:26:10 AM GMT **Published on:** 26-Sep-2011, 02:55:18 PM GMT

**Article URL:** [http://www.webmedcentral.com/article\\_view/2260](http://www.webmedcentral.com/article_view/2260)

**Subject Categories:** EMBRYOLOGY

**Keywords:** Holy Quran, Development, Human Embryo, Science

**How to cite the article:** Mohsen M , Esmailzadeh M , Hamid S . Holy Quran, New Sciences and Development of Human Embryo . WebmedCentral EMBRYOLOGY 2011;2(9):WMC002260

**Additional Files:**

[esmailzadeh manuscript](#)

# Holy Quran, New Sciences and Development of Human Embryo

**Author(s):** Mohsen M , Esmailzadeh M , Hamid S

## Abstract

Ever since the dawn of human life on this planet, Man has always tried to understand Nature, his own place in the scheme of Creation and the purpose of Life itself. In this quest for Truth, spanning many centuries and diverse civilizations, organized religion has shaped human life and, to a large extent, has determined the course of history. While some religions have been based on written text, claimed by their followers to be divinely inspired, others have relied solely on human experience.

Al-Qur'an, the main source of the Islamic faith, is a book believed by its followers, the Muslims, to be completely of Divine origin. Muslims also believe that it contains guidance for all humankind. Since the message of the Qur'an is believed to be for all times, it should be relevant to every age.

This article highlights different stages of formation of the human embryo along with the description of every stage of the embryonic development as mentioned in the Quran. This study shows that God creates a child in a mother's womb and brings about the child chronological evolution to full life, while the parents only play an instrumental role in this creative process. The Quran says: We have created man out of an extraction of clay (the origin of semen). Then we turn it into semen and settle it in a firm receptacle. We then turn semen into a clot ('alaqah) (literally, something hanging, that is, from the womb) which we then transmute into a lump (mudghah). We then create bones which we clothe with flesh. Then, we transmute it into a new mode (of ensoulment)-blessed be then Allah, the best of creators. (Al-Quran, Surah (Chapter) Al-Mu'minin (23): 12-14, see also Al-Hajj (22): 5).

**Key words:** Holy Quran, Development, Human Embryo, science.

## Introduction

Fourteen centuries ago, Allah (SWT) sent down the Quran to mankind as a book of guidance. The matchless style of the Quran and its superior wisdom are definite evidence that it is the word of God. In addition, the Quran has many miraculous attributes proving that it is a revelation from God. One of these

attributes is the fact that a number of scientific truths that we have only been able to uncover by the technology of the 20th century were stated in the Quran 1,400 years ago. Of course the Quran is not a book of science. However, many scientific facts that are expressed in an extremely concise and profound manner in its verses have only been discovered with the technology of the 20th century. These facts could not have been known at the time of the Quran's revelation, and this is still more proof that the Quran is the word of God.

Since Aristotle had summed up the prevailing theories in his age relating to the creation of the embryo, controversy continued among the supporters of the theory of the full dwarf embryo existing in man's sperm and those of the theory of the full dwarf embryo created out of the woman's menstrual blood coagulation (thickening). Most of them believed that man was reduced into that sperm drop, and they drew a figure in which they imagined the embryo as a full creature in the sperm drop, which then grew up in the womb as a small tree (Moore and Persaud, 1998). None of both groups could realize that man's sperm and woman's ovum participate in the creation of the embryo, as supported by the Italian Scientist "Spallanzani" in the year of 1775 (Spallanzani L, 1786). In 1783, Van Beneden was able to confirm this statement, and thus the idea of the dwarf embryo had been discarded (Hamoir G, 1986). During the years 1888 and 1909 Boveri proved that chromosomes when divided carry the different genetic characteristics (Baltzer F, 1964). Morgan, in 1912, was able to determine the role of genes, existing in certain parts of chromosomes, in hereditary (Morgan and Thomas Hunt, 1925). Therefore, it is clear that mankind did not realize that the embryo is created of a man's sperm mingled with a woman's ovum except in the 18th century, and only to be confirmed at the beginning of the 20th century.

On the other hand, the Holy Quran and the Prophetic speeches have confirmed in a very accurate scientific manner the creation of man from a mingled fluid-drop (nutfa amshaj), as coined by the Quran, which says; "Verily we created man from a drop of a mingled fluid-drop (nutfa amshaj), in order to try him: so we gave him (the gifts), of hearing and sight." (The Holy Quran, 76:2).

In this research the embryological developments as

indicated in the Quranic verses will be discussed, while shedding light on the fixed scientific facts in each stage of development.

Reflections and comments on related Quranic verses

There are four different stages of formation of the human embryo in mother's womb as described in the Holy Quran that:

"We have created man out of an extraction of clay (the origin of semen). Then we turn it into semen and settle it in a firm receptacle. We then turn semen into a clot ('alaqah) (literally, something hanging, that is, from the womb) which we then transmute into a lump (mudghah). We then create bones which we clothe with flesh. Then, we transmute it into a new mode (of ensoulment)-blessed be then Allah, the best of creators." (The Holy Quran, 23:14).

These verses of the Qur'an clearly mentioned that at the first stage, man was formed from components contained in clay (sulalatin min tin). Most Mufassirun of the Qur'an understand the creation of man out of 'an extraction of clay' as referring specifically to Adam (a.s). (Al-Qurtubi n.d; al-Tabari, 1954; al-Baghdadi, 1988). Other Mufassirun entertain the possibility that Allah (s.w.t) might be referring to man's body that consists of various chemical components, such as iron, phosphorus, carbon, etc. These chemical components are also found in clay. This is why Maurice Bucaille translates sulalah as 'quintessence', a thing extracted from another thing. (Maurice Bucaille, 1989). He emphasizes that 'quintessence of clay' refers to the various chemical components which constitute clay, extracted from ma' (water), which in term of weights is the main element and the origin of all life[1]. What does water (al-ma' ) mean? al-ma' has been variously interpreted. In order to gain a better meaning of the word, we need to consider two additional verses, which deal with the notion of the aquatic origin of life. Allah (s.w.t) says: "And God has created every animal from water." (The Holy Quran, 24:45). Also, "We made from water every living thing." (The Holy Quran, 21:30). From these verses and to what has been discussed, water is the basic ingredient, the major component without which no living organism could originate and survive.

The second stage of man's creation, as mentioned in surah al-mu'minun in holy Quran, is the development of the diminutive quantity nutfah. In this verse, the Qur'an does not directly mention that the formation of a child comes from the semen of both the male and the female. But in surah al-insan, verse 2, Allah (s.w.t) says: "Verily, we have created man from a drop of mingled liquids (nutfat amshaj)." The commentators of the Holy Qur'an, since the time of Ibn Abbas (r.a), the cousin of the Prophet (s.a.w), stated clearly that the

word nutfah amshaj is the fluid of male and female intermingled which undergoes many stages of evolution. Many modern researchers interpret nutfah as zygote formed by the union of a true mixture of the sperm and ovum. However, Aristotle (d. 322 B.C) maintained that only the male produces semen, and that the male semen is the active form. The female ovum provides the passive element for fertilization. His theory was very close to the popular and biblical idea that the male implants the seed in the female, just as the farmer plants seeds in the soil. This idea implies the notion that the seed already possess its essential characteristics, and only needs a place to mature after fertilization. This ill-conceived idea became greatly influential and widespread during the medieval era, to the extent that even Muslim philosophers, scientists, and medical practitioners subscribed to this preposterous notion (Basim F. Musallam, 1977).

"Nutfah" in Arabic means "very little water" or "a drop of water". This coincides with man's water which contains sperms as part of its components. The sperm or (spermatozoon) is reproduced from the despised lowly water (nutfah) and looks like a long-tailed fish (this is one of the meanings of Sulalah). Allah the Almighty says;

"He It is Who created all things in the best way and began the creation of man from clay, and made his progeny from an extract of despised fluid (Sulalah)" (The Holy Quran, 32: 7-8)

The other meaning of Sulalah is "extract", means the essential or best part of something. By either implication, it means "part of a whole" indicating that the origin of creation is from only part of man's fluid and not all of it (which contains many components as shown above).

Clarifying the role of the nutfah in creation, He the Almighty says;

"So, let man consider of what he was created. He was created of gushing water" (86: 5-6)

And also says;

"He has created man from a sperm (fluid-drop) and behold this same (man) becomes an open disputer." (The Holy Quran, 16: 4).

The Quran tells us also that the essence of man is not the whole semen, but only a small part of it. This is explained in the Quran:

"Does man think that he will be left uncontrolled (without purpose)? Was he not once a fluid-drop of ejected semen?" (The Holy Quran,75:36-37)

As we have seen, the Quran informs us that man is made not from the entire semen, but only a small part of it. That the particular emphasis in this statement announces a fact only discovered by modern science is evidence that the statement is divine in origin. The

divine statement also reiterates that man's characteristics are determined and decreed in the nutfa stage, as He says: "Woe to man! What has made him reject (Allah)? From what stuff has He created him? From a nutfa (fluid-drop) He has created him, and then moulds him in due proportions." (80: 17-19).

And Allah says: "Verily We created man of a fluid-drop (nutfa), mingling (amshaj), in order to try him: so We gave him (the gifts of) hearing and sight." (76:2).

The mingled nutfa in this verse reveals the Quran miraculous nature. Nutfa, in Arabic, is a single small drop of water, but it was described here as (amshaj), which means its structure consists of combined mixtures. This fits with the scientific finding, as the zygote is shaped as a drop, and is simultaneously a mixture of male fluid chromosomes and female ovum chromosomes.

Has anyone ever thought, before the Quran was revealed, that man's nutfa, when ejected, is responsible for determining if the embryo will be male or female? Has this ever occurred to one's mind? The Quran says;

"That He created the pairs, male and female, from a fluid-drop sperm as it is emitted." (The Holy Quran, 53: 45-46), confirming that man's gender as male or female is determined when the sperm drop is emitted. Who told the Prophet Mohammed that the sperm (nutfa) with one of its types (Y) or (X) is responsible for determining the sex of the embryo? This was not discovered except after the invention of microscopes in the past century, when it was possible then to know that the embryo being a male or female is only determined by the sperm (nutfa), rather than the ovum. In other words, we were in the beginning of the 20th century and the whole of mankind were not aware that the nutfa decrees if the embryo is male or female. While the Quran, which was revealed 14 centuries ago, has stated this fact in a very clear manner.

Here is a remarkable note. We know that the sperms are formed in the testicles, which in turn are created, as proved by embryology, from cells underneath the kidneys at the back and then go down to the lower abdomen at the last weeks of pregnancy. This is in confirmation of Allah's saying:

"And remember when your Lord brought forth from the children of Adam, from their loins, their seeds..." (The Holy Quran, 7: 172).

This is a clear indication that the origin of progeny is at the region of the back where the embryonic testicles are formed. So, praise is to Allah the Omniscient. The uterus is considered as a place settled (Makeen) and safe for the growth and protection of the embryo. We find that Quran mentions and affirms this fact 14 centuries ago, as He Almighty says:

"The which (embryo) We placed in a place of settlement, firmly fixed for a period (of gestation), determined. For We do determine, for We are the best to determine (things). (The Holy Quran, 77: 21-23).

From s 'nutfah , then it becomes 'alaqah. When the semen enters the womb, it forms a ball-like structure, which remains for six days before it attaches itself to the womb. It should be noted that the word 'alaqah in the Qur'an has at least two meanings. First, it is something that clings or attaches itself to something else which refers to the process of clinging, the attachment and the implantation of the blastocyst in the compact layer of the endometrium. The second meaning of 'alaqah refers to a leech or bloodsucker. The human embryo clings to the endometrium of the uterus, in the same way that a leech clings to the skin. In the same manner as the leech derives blood from the host, the human embryo derives blood (nutrition) from pregnant endometrium. (Ibrahim B. Syed, 1989; Mohammed Ali Albar, 1992).

The stage of Alaqā starts on the 15th day and ends on the 23rd or 24th day, after which the embryo is gradually developed and looks like a leech, which lives in ponds.

Alaqā hangs to the lining of the uterus by the umbilical cord. Blood is then formed in the vessels at the shape of closed islands, and is not circulated in blood vessels, thus having the image of clotted blood.

Although it is in the nature of human body to expel any external matter, the uterus does not reject the alaqā implanted in its lining despite the fact that half of the alaqā components and genes are from an external source (the father). This is because the region of syncytial cells in alaqā has no antigens.

It is noteworthy that the primitive streak is created at first on the day 14th or 15th, in which the primitive node appears. Out of this primitive streak, stem cells are composed, as well as the sources of the main tissues of Mesoderm, Ectoderm and Endoderm, which will form the different organs and tissues of the body. At the end of the 3rd week, the primitive streak shrinks and the remnant stays in the sacrococcygeal region at the end of the spine, maintaining the remaining of stem cells in this region. This explains why some tumors in the coccygeal region which is called Teratoma can contain different tissues (muscles, skin, cartilage, bones and teeth as well), contrary to the tumors that exist in different regions and take its toll on one definite tissue.

Transformation process from nutfa to alaqā takes more than 10 days till the zygote clings to the primitive placenta by way of a connecting stalk which later becomes the umbilical cord. Therefore, the Quranic statement uses the conjunction article (thumma) in

Arabic, indicating sequence of events with time delay and not using (fa) which also means "then" but indicates rapid progression without any delay. Quran states: "then of that fluid-drop (nutfa) We created a leech-like clot" (The Holy Quran, 23:14).

'Alaqah then evolves into a lump, 'mudghah. If one looks at a four weeks old human embryo, it looks like a chewed lump of flesh. This chewed appearance results from the somites, which resemble teeth marks. The somites are the bases from which the greater part of the skeleton and musculature develops.

The embryo is transformed from the stage of 'alaqa to the beginning of the stage of 'mudgha on the 24th day to the 26th day, which is a very brief period if compared with the period of the 'nutfa changing to 'alaqa. This stage starts with the appearance of somites on the 24th or 25th day on top of the embryonic scapula, and then gradually appears at the embryo's buttock. On the 28th day the embryo is formed of several bulges, with grooves in between, thus giving the embryo the image of a chewed gum. The embryo turns and rolls in the cavity of the uterus during this stage which ends by the end of the 6th week. It is noteworthy that the stage of 'mudgha starts with the growth and increase of cells in a large number. The 'mudgha looks like a piece of meat which has no distinguished structure, then after a few days, the second stage starts, called the stage of formation (takhaloq), where some organs begin to appear, such as the eyes, tongue and the lips, but human distinguishing features do not appear except at the end of the 8th week. Limbs bulges (hands and legs) also appear in this stage. In the 5th week the heart starts beating and the embryo has already developed its placenta and amniotic sac. The placenta is burrowing into the uterine wall to access oxygen and nutrients from the mother's bloodstream. (Abdul-Majeed A et al, 1664)

'Mudgha in Arabic means the material chewed by teeth. This gives an accurate description of the embryonic stage as the embryo shape looks like a chewed material which constantly changes, with the appearance of somites bulges. The differences in these somites look like the "teeth imprints" over bread bite. The embryo turns and rolls in the cavity of the uterus as a piece of chewed material in the mouth.

The stage of 'mudgha comes after the stage of 'alaqa. This coincides with the Holy verse:

"And of that clot We made a (foetus) lump." (The Holy Quran, 23: 14). Of the characteristics of mudgha is that it elongates and changes shape when chewed. This is exactly what occurs to the embryo in this stage. As we mentioned before, the mudgha has an early form before the creation and formation of organs

and another form following the formation of organs.

The Quranic verse states:

"O mankind! If ye have a doubt about the Recreation (consider) that We created you out of dust, then out of sperm, then out of a leech-like clot, then out of a chewed-like lump of flesh, formed and unformed, in order that We may manifest (Our power) to you; and We cause whom We will to rest in the wombs for an appointed term." (The Holy Quran, 22: 5).

Thus, there are two types of mudgha: formed and unformed. The formed one is the embryo itself which starts forming into different organs with specific functions and the unformed one is the placenta which starts developing in the 5th week (around day 35) of the mudgha stage (Moor Keith, 1986) The mudgha stage ends at the 6th week (i.e. 40 days).

After the mentioned stages, al-Qur'an declares: "Then we made out of the chewed lump, bones, and clothed the bones with flesh". The last stage is the infusion of the soul to the fetus and it becomes a real "person" in the legal sense. Many Muslim scholars, upon reliance on Prophetic traditions conclude that, the first 120 days cover three 40 day stages: the nutfah (a drop of sperm), the 'alaqah (a blood clot), and the mudghah (a little lump of flesh). Thus, accordingly, such an infusion of the soul occurs after 120 days of pregnancy in which the angel responsible for ensoulment delivers the spirit into the human embryo. This scientific idea is derived from the following hadith: "Each of you is constituted in your mother's womb for forty days as a nutfah, then it becomes a 'alaqah for an equal period, then a mudghah for another equal period, then the angel is sent, and he breathes the soul into it". (Ibn al-Qayyim, 1994; al-Baghdadi, 1988)

Transformation from the mudgha form to the beginning of the skeleton form occurs in a very short period of time at the end of the 6th week and the beginning of the 7th week. This stage is characterized with the appearance of the skeleton which gives the embryo the human image.

The term of "izam" (bones), coined by Quran, accurately expresses this stage in the life of the embryo, which includes the external appearance and is considered the most important change in the internal structure, with its associated new relations among body organs and regularity of embryo shape. This stage is clearly distinguished from the preceding stage of mudgha (chewed-like lump of flesh). Allah says:

"then We made out of that mudgha (chewed-like lump of flesh) bones and clothed the bones with flesh; then We developed out of it another creature. So blessed be Allah, the best to create." (The Holy Quran, 23: 14). Bone formation is a notable process in this stage, as

embryo is transformed from the image of mudgha which has no features of human image to the beginning of the skeleton image in a very short period of no more than few days at the end of the 6th week ; therefore, the quranic verse uses the Arabic conjunctive article (fa) instead of (thumma) to indicate quick sequence of events.

This skeleton gives the embryo the image of a human being after being clothed with lahm (muscles). The two eyes and the two lips then appear, and the head is differentiated from the trunk and the limbs. This is in accordance with the Prophet's (PBUH) saying in "Sahih Muslim"; "When 42 nights have passed over the conception , Allah sends an angel to it, who shapes it (into human form) and makes its ears, eyes, skin, muscles and bones. Then he says; ` O Lord, is it male or female?`, and your Lord decides what He wishes and the angel records it."

After 42 nights (6 weeks), the embryo begins to take the human image with the appearance of cartilaginous skeleton, then the external genitals begin to appear later on (the 10th week). In the 7th week the human image gets clearer with the start of the spread of skeleton. This week represents (between 40 and 45 days) the demarcation line between mudgha and human image. So, it is well proved that the Quran's words are very well contrived and scientifically accurate, as they are composed by Allah Who has perfected everything.

The stage of muscles (clothing with flesh) is characterized with muscles encircling and tightly surrounding the bones. With the completion of clothing the bones with lahm (muscles and flesh), the human image starts to be more clear, as human parts are appropriately connected. After completion of myogenesis (muscle formation), the embryo can start to move.

This stage, which starts at the end of the 7th week and ends at the end of the 8th week, is considered as the end of the stage of takhaloq (formation). Embryologists termed the end of the 8th week as the end of the embryology stage followed by the foetus stage which coincides with the Nash'ah (developing) stage as Quran stated.

Until very recently, embryologists assumed that the bones and muscles in an embryo developed at the same time. For this reason, for a long time, some people claimed that these verses conflicted with science. Yet, advanced microscopic research conducted by virtue of new technological developments has revealed that the revelation of the Quran is word for word correct. These observations at the microscopic level showed that the development inside the mother's womb takes place in just the way it

is described in the verses. First, the cartilage tissue of the embryo ossifies. Then muscular cells that are selected from amongst the tissue around the bones come together and wrap around the bones.

By the end of the 8th week, a new stage starts where important processes occur. The rate of developing accelerates compared with the previous one. The embryo transforms into another creature, as the sizes of head, body and limbs start to be balanced and regular between the 9th and 12th week. At the 10th week, external genital organs appear, and the skeleton develops structure from soft cartilaginous to hard calcic bones at the 12th week . Limbs and fingers are distinguished at the same week. The gender of the embryo is manifest with the clear appearance of genitalia.

The weight of the embryo increases noticeably. Voluntary and involuntary muscles develop, and voluntary movements start in this stage. In the 16th week (112 days) the foetus can grasp with his hands, kick, or even somersault.

In this stage the organs and the systems become well prepared to function. The foetus is ready for life outside the womb starting from the 22nd week to the 26th week (i.e., after the completion of the 6th month of gestation), when the respiratory system is ready to function and the nervous system is able to adjust the temperature of foetus body.

The first sense to develop in a developing human embryo is hearing. The foetus can hear sounds after the 24th week. Subsequently, the sense of sight is developed and by the 28th week, the retina becomes sensitive to light.

In this stage, no new system or organs are formed, and the uterus provides food and suitable environment for the foetus to thrive until the stage of labour.

This stage starts after the stage of clothing the bones with lahm (muscles and flesh), i.e., at the beginning of the 9th week, taking a period of almost 3 weeks. This is indicated with the use of conjunctive article (thumma) then, which denotes a time break between clothing with lahm and developing into another creature: He the Almighty says;

"And clothed the bones with flesh; then We developed out of it another creature. So blessed be Allah, the best to create " (23: 14).

After the development of the cartilaginous skeleton, clothing it with muscles, and the head and the limbs are distinguished, the embryo changes into a human creature well differentiated from other creatures.

During this stage, some important processes occur in the development of the embryo, which are clearly described in the Holy Quran and can be summarized as follows:

1. Nash'ah (developing) which is clearly noticed in the accelerated rate of growth at the 9th week compared with the previous stages.

2. Khalqan Akhar (another creature): this description coincides with the first one and indicates that the embryo has changed in the nash'ah stage into another creature, i.e., the foetus. Limbs and external organs begin to appear, and fingers and external genitalia are distinguished. Allah the Almighty says;

"He it is Who shapes you in the wombs as He pleases. There is no god but He, the Exalted in Might, the Wise." (The Holy Quran, 3:6)

Here is an exquisite remark. Allah says in Surat Al Zumar;

"He creates you in the wombs of your mothers in stages, one after another, in three veils of darkness." (The Holy Quran, 39:6), thus indicating the continuation of the embryonic development and the change from one stage into another, as explained earlier. Embryologists have confirmed that the foetus is surrounded, during the stages of development, with three membranes:

1. The amnion membrane which contains a fluid encompassing the foetus to make it in a state of swimming, thus protecting it from trauma that the uterus encounters, and facilitates the foetus movements for re-position smoothly during labour.

2. The chorion membrane.

3. The decidua membrane.

Some scholars interpreted the three veils of darkness with the amniotic membrane surrounding the uterus, wall of uterus, and abdomen wall. Yet, Allah knows best.

As we have mentioned before, the foetus becomes ready for life outside the womb after completion of the 6th month. It is noticed that the Quranic statement indicates in Surat Ahqaf that the stage of conception and incubation takes 30 months;

"The bearing of him (the child) and the weaning of him is thirty months" (The Holy Quran, 46: 15),

whereas in Surat Luqman, it is indicated that the period of incubation is 24 months;

"And in two years was his weaning." (The Holy Quran, 31:14).

With a simple calculation, we deduce that the quranic statement decides that the least period of conception is 6 months as mentioned earlier, being a scientific fact, and before the 22nd week, in which this stage starts, the foetus is delivered abortus (not able to survive) in most cases. Praise be to Allah is the Omniscient.

It is very interesting to mention that the first sense to develop in a developing human embryo is hearing. The foetus can hear sounds after the 24th week.

Subsequently, the sense of sight is developed and by the 28th week, the retina becomes sensitive to light. Consider the following three Quranic verses related to the development of the senses in the embryo

"And HE gave You (the faculties of) hearing and sight and feeling (And understanding)" (The Holy Quran, 32:9)

"Verily We created man from a drop of a mingled fluid-drop (nutfa amshaj), in order to try him: so We gave him (the gifts), of hearing and sight" (The Holy Quran, 76:2)

"It is HE WHO has created For you (the faculties of) Hearing, sight, feeling And understanding: little thanks It is ye give!" (The Holy Quran, 23:78)

In all these three verses the sense of hearing is mentioned before the sense of sight. Thus the Quranic description matches with the discoveries in modern embryology that the sense of hearing is developed before the sense of sight.

The stages of development which the Qur'an and the hadith established for believers do not contradict with Galen's scientific account. In De Semine, for example, Galen (d. 200 C.E) spoke of four periods in the formation of the embryo: 1) as seminal matter; 2) as a bloody form (still without flesh); 3) the fetus acquires flesh and solidity (the heart, liver, and brain are well defined, and the limbs begin formation); and finally 4) all the organs attain their full perfection and the fetus is quickened. (Basim F Musallam, 1983).

[1] The Qur'an speaks of human beings as been created from water. Allah (s.w.t) says: "It is He who has created man from water" (The Holy Quran, 25:54).

## Results

The miracle of human creation in the holy Quran is one of many other medical miracles. Having reviewed previous detailed statements of Quranic verses and scientific analysis of the embryonal stages, it is evident that these Quranic verses give an accurate description of the main stages the embryo encounters during creation and formation until delivery. It is noticed that these changes coincide with the remarks of modern embryology, and truly expresses the external phenomena of changes that result from the internal changes. The Quranic descriptions contain expressions comprehensible to people of different backgrounds, whereas the current expressions in embryology used for the description of these stages do not identify the distinguished characteristics of the embryo in each stage, as numerical coding is used without reference to any description. This proves the wonderful miraculous nature of the Quran, which

cannot be revealed except from the comprehensive knowledge of the Omniscient. These facts were confirmed by the embryologist Professor Keith Moore and also other non Moslem scientists.

In the age where Quran was revealed, with the description of human creation expressed in very accurate terms that fit with the modern rules of science, and with the confirmation that the creation and development of embryo are fulfilled on stages, as Allah says;

"What is the matter with you, that ye are not conscious of Allah's majesty, Seeing that it is He that has created you in diverse stages" (The Holy Quran,71: 13-14)

Non- Moslem scientists at that time believed that man was created from menstrual blood. In so far as the 17th century, they believed that the embryo was fully created from man's sperm, and then it grew after entering the uterus. Thus they perceived man as a seed reduced wholly in that small drop of sperm. The idea remained as such until the 18th century when microscopes proved that sperm and ovum are both necessary for pregnancy. This was discovered so many centuries after it had been revealed by the Holy Quran. This shows that the Quran is the word of a Will that knows the creation of man down to its slightest detail. This Will is Allah, the creator of man, Who says;

"And say: 'Praise be to Allah, Who will soon show you His signs, so that ye shall know them' " (The Holy Quran,27: 93), and Who also says;

"Soon will We show them our signs in the furthest horizons, and in their own souls, until it becomes manifest to them that this is the Truth" (The Holy Quran, 41: 53). Verily says the Almighty Allah.

## Conclusion

Al-Quran tells us about the creation of a child in a mother's womb and its chronological evolution to full life. The parents only play an instrumental role in this creative process. During this process especially when the child is shaped after 120 days, Islam regards the fetus, in this condition, as a human being, so that the fetus should be granted a share and the right of inheritance, which will be enforced upon the child's delivery.

## Acknowledgments

We express us deep appreciation to Research and Development Unit of Shirvan Islamic Azad University for financial assistance and ongoing support.

## References

1. Abdul-Majeed A. Zindani, E Marshall Johnson, Mustafa A. Ahmed, Gerald C Goeringer, Joe Lee Simpson, Keith Moore, T. V. N. Persaud (1994). Human Development as Described in the Qur'an and Sunnah : Correlation with Modern Embryology. Islamic Academy for Scientific Research. ISBN-13: 978-0962723643
2. al-Baghdadi( 1988). al-Tibb min al-Kitab wa al-Sunnah, ed. 'Abd al-Mu'ti Amin Qal'aji. Beirut:Dar al-Ma'rifah.
3. Al-Qurtubi, n.d. al-Jami' li Ahkam al-Qur'an. ed. Abu Ishaq Ibrahim Tafish. Beirut: Dar al-Kitab al-'Arabi.
4. al-Tabari( 1954). Jami' al-Bayan 'an Ta'wil al-Qur'an . Cairo: n.p.
5. Baltzer, F (1964). Theodor Boveri. Science 144, 809-815
6. Basim F Musallam (1983). Sex and Society in Islam. Cambridge: Cambridge University Press.
7. Basim F. Musallam(1977). Galen's Criticism of Aristotle's Conception Theory. Journal of the History of Biology. 10: 65-85
8. Hamoir G (1986). Edouard Van Beneden, biologist and stoic. Rev Med Liege. 1986 Oct 15;41(20):779-85.
9. Ibn al-Qayyim(1994). al-Tibyan fi Aqsam al-Qur'an, ed. Fu'ad Ahmad Zamrli. Beirut: Dar al-Kitab al-'Arabi
10. Ibrahim B. Syed ( 1989). Islamization of Attitude and Practice in Embryology. Islamization of Attitudes and Practices in Science and Technology. ed. M.A.K. Lodhi. Herndon: IIIT.
11. Mohammed Ali Albar( 1986 ). `Alak,". Islamic World Medical Journal, 2, pp.54-56.
12. Moor Keith & Persaud T (2008).The Developing Human: Clinically Oriented Embryology. Saunders; 8th edition. ISBN: 978-1-4160-3706-4
13. Moor Keith (1986). A Scientist's Interpretation of References to Embryology in the Quran. Journal of the Islamic Medical Association.18: 15-16
14. Morgan, Thomas Hunt (1925).Evolution and genetics. Princeton, Princeton University Press. ISBN-13: 978-1443767019
15. Spallanzani L (1786) Experiencias para servir a la historia de la generaci3n de animales y plantas. In: Mu0oz J, Leloir LF, Braun E (eds) Maestros de la Ciencia. Buenos Aires: Emec3 Editores, Edici3n de 1945.Translated from Italian.



## Disclaimer

This article has been downloaded from WebmedCentral. With our unique author driven post publication peer review, contents posted on this web portal do not undergo any prepublication peer or editorial review. It is completely the responsibility of the authors to ensure not only scientific and ethical standards of the manuscript but also its grammatical accuracy. Authors must ensure that they obtain all the necessary permissions before submitting any information that requires obtaining a consent or approval from a third party. Authors should also ensure not to submit any information which they do not have the copyright of or of which they have transferred the copyrights to a third party.

Contents on WebmedCentral are purely for biomedical researchers and scientists. They are not meant to cater to the needs of an individual patient. The web portal or any content(s) therein is neither designed to support, nor replace, the relationship that exists between a patient/site visitor and his/her physician. Your use of the WebmedCentral site and its contents is entirely at your own risk. We do not take any responsibility for any harm that you may suffer or inflict on a third person by following the contents of this website.