

# Exploring Fetal Condition: A Comparative Study of Buddhist Perspective and Modern Medical Science View

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## ABSTRACT

Nowadays, Happy Birthday is widely celebrated around the world. Actually, according to the Buddhist teaching, in the Visuddhimagga, the Buddha said, “*Jātipi Dukkha.*” Birth is suffering. In this paper, the author would like to explore the fetus's condition and how it suffers from both perspectives: Buddhist doctrine and modern medical science. Furthermore, the Dhammapada verses will be widely illustrated to aid a clearer understanding of the nature of the Embryo in the mother's womb, and modern medical science will highlight the fetus's suffering while in the mother's womb and as it passes through the mother's birth canal.

The aim of this investigation was to investigate and compare the Buddhist knowledge of fetal development including fetal placement inside mother's body since Buddhism was originate concepts with the modern medical scientific explanation. This comparison aimed to identify similarities, or differences of great significance, between the anatomical and positional observations and developmental events that were described in materials from Buddhist sources and those from modern biomedicine.

This study used a comparative method of analysis. The author also studied the Buddhists' own literal sources on fetal development, mainly from canonical and commentary literature. Anatomical and obstetric descriptions from contemporary medical school textbooks and clinical literature were compared with the skull.

The comparison indicated that the descriptions of fetal presentation and spatial relations in utero are largely compatible between Buddhist literature and medical science. Both models depict the fetus as being located directly posterior to the abdominal wall on a line between the mother's vertebral column and held in flexion during most of its time within the uterus. They also see the prevalence of (cephalic) head down position at birth as normal, though they acknowledge variations, in particular breech.

**Keywords:** Buddhist Perspective, Medical Science View, Embryo, mother's womb, pregnant, parents, biological process

## INTRODUCTION

In the human experience, we tend to associate pregnancy and child birth as a blessing – prosperity, abundance and happiness. In the concept of Buddhist Philosophy, this is perceived much differently. Buddhism aims for the final release from the cycle of rebirth—*samsāra*—and so views its continuation as detrimental rather than a blessing. Even in the life of Prince Siddhattha his views were ingrained. Contrary to the common reaction of rejoicing at the news of his son's birth, he said: “bondage has been born,” implying that relationships bring in emotional strings attached making renouncement difficult. From the experience of parental attachment as well as from the existential condition of the baby, being born again is seen to be a continued birth and not a happy one. In view of the fact that Buddhism rejects any action which leads to another *samsāric* life, it does not glorify any biological process that activates the cycle of birth, aging and so on. Such is the passion from which the Buddha says he was freed upon his awakening, when, as he says “no more will my life be born again”.

From the viewpoint of contemporary medical science, pregnancy is considered as a continuum physiological

phenomenon where uterus undergo remarkable structural and functional modifications in order to accommodate developing fetus. As a reproductive organ, the non-pregnant uterus remains a small pelvis-bound structure, resembling an inverted pear with thick muscular walls, about 7.5 cm in length and weighting some 30-40 g; however, once conception is established its metamorphosis commences and slowly progresses without attracting attention until one fine morning the first no-mistake-of-it symptom: absence of menstruation. As pregnancy advances, the growing uterus also increases in weight and size, extending out of the pelvic cavity and into the abdomen. By 7 weeks it is the size of a chicken's egg, by 10 weeks an orange and by 12 week has grown to a grapefruit— palpable abdominally. But the fundal height increases over pregnancy, to become approximately at the umbilicus by 22 weeks and just below the xiphoid process at about 38 weeks. As the uterus grows, other organs of the abdomen are pushed away from it and by full term the fetus is parallel and anterior to the maternal vertebral column being run-of-the-mill when positioned with longitudinal cephalic presentation. While durations of pregnancy can differ, forty weeks is often used as a reference period due to the large variability and gender differentiation found in mid-length pregnancies (37 to 42 weeks) according to WHO normal terms.

### The State of the Embryo in Its Place with Reference to Buddhism

Whereas it for commoners is viewed as ovulation and delivery or child/children birth ceremony being one of the auspiciousness, it appears inversely in Buddhism due to its ultimate objective being liberation (from re-birth).<sup>1</sup> This view is reflected in the biography of the prince Siddhattha. When told that a son was born to him his feeling was not like others and he said as follows: “bondage is born to me.” For it would be harder for him to leave the world, on account of children being in a natural way a strong bond upon parents.<sup>2</sup> Here-in is the one related to parental side for having child, and to be emancipated from this samsāra it is one of the hurdles. It is considered from the opposite side also that to be born again and again is nothing but suffering according to the view of Buddhism also, because even for Buddhism it is impossible to bless any action concerning a biological process by which samsāric existence will occur repeating its life-cycle of birth, decay, and death; since Buddhism as a kind of asceticism ought necessarily be opposed to it.<sup>3</sup> It can also be understood by reading the verses which were uttered by the Buddha. Immediately after His enlightenment the Buddha uttered the words expressing that for him there will be no more rebirths for Him. This utterance was recorded in the *Dhammapada*,

*“Anekajāti samsāram sandhāvissam anibbisam*

*gahakāram gavesanto dukkhā jāti punappunam*

*Gahkarak diṭṭhosi puna geham na kāhasi*

*sabbā te phāsukā bhaggā gahkūtam visaṅkhatam*

*visaṅkhāragatam cittam taṇhānam khayamajjhagā”*<sup>4</sup>

“Through many a birth I wandered in *Samsāra*, seeking but not finding, the builder of the house. Sorrowful it is to be born again and again.

O! House-builder! Thou art seen. Thou shalt build no house again. All thy rafters are broken. Thy ridge-pole is shattered. My mind has attained the unconditioned. Achieved is the end of craving.”<sup>5</sup>

<sup>1</sup> Daw Tin Tin Lay, “An analysis of Embryology in Buddhism compared with Medical Science” Department of Suttanta, International Theravāda Buddhist Missionary University, Yangon, Myanmar, May, 2011.

<sup>2</sup> Sayadaw U Sīlānanda, *Dhammacakkappavattana Sutta A Discourse on Setting in Motion the Wheel of Dhamma* (Penang: Selangor Buddhist Vipassana Meditation Society, 2005), 5.

<sup>3</sup> L.P.N. Perera, *Sexuality in Ancient India: A Study based on the Pali Vinayapitak* (Kelaniya: The Postgraduate Institute of Pali and Buddhist Studies, University of Kelaniya, 1993), 227.

<sup>4</sup> *Dhammapadapāḷi*, 36.Verse 153, 154. *Jarāvagga. Udāna Vatthu*

And for the child or begotten to be born in any of these realms even the human sphere is suffering (dukkha). This is why when the Buddha delivered His first discourse: he said Birth is suffering Jātipi dukkhā. It can be seen that almost all Buddhist authors and commentators considered the Paṭisandhi time (that is, from the moment of conception until leaving from mother's womb) as suffering and compared an embryo in its mother's womb with being in hell.

This outlook on—the birth is suffering (*Jātipi dukkhā*)—is portrayed picturesquely by the great commentator *Buddhaghosa Thera* in his famous book entitled *Visuddhimagga* thus,

*“ayaṃ hi satto mātukucchimhi nibbatamāno na uppalapadumappuṇḍarikādisu nabbattati, atha kho heṭṭhā āmāsayaṃ upari pakkāsayassa udarapaṭalapiṭṭhihi kaṇṭakānaṃ ve majjhe paramasambādhettibbandhakāre nānākuṇapagandhaparibhāvita paramaduggandha pava navicarite adhimattajegucche kucchipadese pūti maccha pūtikummāsacandanikādisu kimi viya nibbatatti. So tattha nibbatto dasa māsē mātukucchisaṃ bhavena usmanā pūṭapākaṃ viya paccamāno piṭṭhapiṇḍi viya sediyamāno samīñjanapasāraṇādirahito adhimattaṃ dukkha manubhotīti, idaṃ tāva gabbhokantimūlakaṃ dukkhaṃ”*<sup>6</sup>

There it is said, he who (is being) born in the mother's womb- not as some one was born inside a blue or red or white water lily, &c., so also no research for that matter-he has been at the end of all just like a worm are to be found in stinking fish; stinking dough, cess-pools &c., and therefore coiled up inside the belly at one end below (the receptacle of undigested food) above [rectum], between them both; certainly very close and dingy with its air most strongly smitten by divers odour of ordure which exude from it and where such an entry too had to be adapted keeping up residence as (some growing) brute. Now having taken his birth (there) he is for ten months a most miserable creature being boiled like pudding in a cloth by the heat (engineered) inside the womb within mother earth's belly and broiled as bread without bending, stretching back and so forth.<sup>7</sup> Furthermore, the filthy state of a mother's womb (which has now become an inn for the poor baby) is compared to a dung-hill that has not been cleaned for years. That excrement bucket ain't been washed in however long ... whether the mother is twenty, thirty or forty years old.”<sup>8</sup>

Further, thereafter we more detailed explanations about the dukkha or sufferings of embryo because mother's actions in different ways like then she stumbles, moving or sitting down/standing up or turning round, its great suffering that men being jolted and dragged back and forth and hither and thither being called baby dies in the hands they fell over a drunkard. Or like a young snake entangled in ((the hand of)) the snake-charmer, and the burnt pain that exists to it when re-born in cold hells, by reason of (its) mother drinking cold water, and as though washed over with ashes-rain, through everything hot also eaten by its mother -- ((viz.)) rice-gruel, rice, etc., and as though lye-pickled by her eating anything salt or sour.<sup>9</sup>

Furthermore, the condition of the embryo in his or her mother's womb is reckoned as a hell being *nerayika* as he or she is suffering constantly all the time or uninterrupted. Staying in the mother's womb is terrible in deed like a hell and the place is full of filth. This can be evident from the Jātaka Pāli “So ghoraraūpaṃ nirayam upeti, subhāsubhaṃ muttakarīsapūraṃ. Sattā sakāya na jahanti giddhā, ye honti kāmesu avītarāgā”<sup>10</sup>

In addition, Buddhism does not keep silent on the subject of the duration of the pregnancy. Buddhist scriptures particularly the *Visuddhimagga* mentions this period as time of excessive suffering and states clearly for ten months (dasa māsē).<sup>11</sup> Though the *Visuddhimagga* just mentions it simply for ten long month of foetal suffering as hellish, the *Paramatthamañjūsā* describes more detail thus,

<sup>5</sup> ‘The Advisers of the Ministry of Religious Affairs, *The Teachings of the Buddha (Basic Level)* (Yangon: Ministry of Religious Affairs, 1998), 41.’

<sup>6</sup> *Visuddhimagga-ṭīkā* (Volume II). 131.

<sup>7</sup> Pāli Myanmar English Dictionary. 569.

<sup>8</sup> Pāli Myanmar English Dictionary. II. 198.

<sup>9</sup> TPP. 569-570. cf TDD.116

<sup>10</sup> Jātakapāli (paṭṭhamobhāgo). I. 137. Darīmukha Jātaka

<sup>11</sup> TPP. 569.

“*Dasamāseti acantasamyoge upayogavacanāṃ, yebhuyyavasena vuttaṃ tato bhiyyopi ekaccānaṃ tatthāvaṭṭhānasambhavato*”<sup>12</sup>

It is said in the sense of full intercourse through during ten months, that pregnancy lasts for (ten) months. This is just for general information but few foetus may stay in the position much longer than that.<sup>13</sup>

Moreover, with regards to the duration of pregnancy Buddhism mentions a range of period of pregnancy that a child can be born ranging from seven months up to twelve months. It continues to say that if the child born at seven month of pregnancy though it cannot bearable to heat and cold it can survive. However, the child born at eight month can not survive since it is slight bigger than that of seven month born it has to confront with more difficulties while journey through the narrow birth canal of the mother. The child who delivers at nine months onward can survive and bearable to the heat and cold. Thus one can find the expression of Buddhism concerning the duration of pregnancy in general. Furthermore, it records the specific case which is beyond normal range of pregnancy length up to seven years and seven days (including duration of labour).<sup>14</sup>

From the above statements taken from the Pāli scriptures, one can witness the outlook of Buddhism on the condition of the embryo vividly. It also stated the anatomical position of the embryo in relation to the other internal organs of the mother and their state, situation and the duration of the pregnancy.

To put it into the nut shell, the embryo is in the position of flexion with its all limbs with inclusive of its head. Head appears upward and is situated under the stomach. Hence, the baby seems to be carrying the mother's stomach with its head. And the buttock or rear part of the baby is positioning inferiorly and his condition is just sitting above the mother's rectum. Mother's belly is in front of the baby and behind it is the mother's backbone. Moreover, duration of the pregnancy is identified as ten months and its ranges of possibility are also expressed shrewdly. In addition to the position of the embryo in the womb, Buddhism compared the mother womb with the hell for it sees where there is full of suffering constantly with no free space and time void of suffering. Having portraying the negative outlook upon the birth which is full of suffering with little happiness, Buddhism shed side light that without rebirth, these suffering would never come about. Because the birth is the basis (*vatthumeva hoti*) since there is no suffering in absence of birth. With these observations, it disheartens to be born again and again and highlights the suffering arising out of birth (*jātipi dukkhā*). And as a final point it kindles the sense of urgency to awaken and be liberated from the round of rebirths.

### **Status of the embryo in Its Place from the standpoint of medical science**

According to the Medical Science, in course of time the uterus which is accommodating and nursing the baby inside grows and becomes heavier & heavier. One of the female reproductive system organ known as uterus is not other, it remains fully inside pelvic just before pregnancy that means when there will be no pregnancy then uterus position is normal anatomically. So, the normal adult female uterus is a pelvic organ after all! It is somewhat pear-like, inverse pear-shaped structure becomes narrower inferiorly towards the cervix. It is somewhat hollow, with dense muscular walls. The largest external dimensions are about 7.5 x 5 x 3 cm.<sup>15</sup> It is of about 30-40Gm in size and held at place by different ligaments like Broad ligament (Mesentery), Round Ligament of Uterus and Lateral Cervical or Cardinal ligament etc.

It can also be defined as the level at which fetal head (in case of cephalic presentation of enumbred) or presenting part goes in superior pelvic strait, and starts its decent inside the pelvis when its biparietal plane is below inlet. So, the mother feels the lightening (relief of abdominal distention). The foetal head at term lies beyond that of the mother's bladder anteroinferiorly and the rectum posteroinferiorly in case of normal presentation. Thus, maternal cavity visera may sit on top of the and even small intestines are found upon or at side of foetal buttock as normal posture

<sup>12</sup> Pāli Myanmar English Dictionary. II. 198.

<sup>13</sup> Hee, loc.cit

<sup>14</sup> Mahā Minhla Sithu, Kāyanupassanākyan : Contemplation of the Body (um,ekyomemusrf;) (Yangon: Hanthawaddy Press,1953),68,69.

<sup>15</sup> GTT. 12.

<sup>16</sup> The uterus cavity is an inverted triangle in shape and when cut coronally the top tube opens into the lateral angles.

Pregnancy also is a natural process although the woman could not realize it. The initial “flag” signal is the cessation of the usual monthly menstrual period. Despite being high tech in the medical world it represents the first warning of soon to be (or just became) aware, if you know what I'm saying, or in basic human language, another sign that girl is pregnant.

At 7 weeks pregnant, they say that your expanding uterus is the size of a large chicken egg. By 10 weeks, it is as big as an orange. By 12 weeks it's the size of a grapefruit. The fundus can be felt abdominally at 12 weeks, and the mother may perceive abdominal enlargement by 16 weeks.<sup>17</sup>

The pregnant uterus comes out of the pelvis and reaches above the *symphysis pubis* and enters into the abdominal cavity since it can no longer stay within the pelvis with increasing its size. The obstetricians or midwives can estimate the pregnancy by palpating the height of the uterine fundus approximately. At 12 weeks the *fundal* height can be palpable just above the pubic *symphysis*<sup>18</sup>. At 16 weeks it is midway between the pubic *symphysis* and umbilicus (navel). At 22 weeks it is at the navel. Accordingly the height of the *fundus* increases upward up to the *xiphoid* process (tip of the sternum) at 38 weeks. At 40 weeks (at the end of pregnancy), however, a reduction in *fundal* height known as lightening<sup>19</sup> may occur.<sup>20</sup> Now the abdominal cavity of the mother is filled with the full term uterus. It occupies almost the whole place and thus the abdominal viscera pave the way for the uterus. The baby can be palpable manually from the abdomen since there are no organs between the full term uterus and abdominal wall of the mother. The kidneys are slightly displaced upward by a pregnant uterus and liver and spleen too.<sup>21</sup> Apart from them, the full term baby sheltered in the uterus lies anterior to the mother's vertebral column (Thoracic and Lumbar region). Though the lie<sup>22</sup> of the baby varies from longitudinal lie, oblique lie to transverse lie, only a longitudinal lie is accepted as a normal lie.<sup>23</sup> When the pregnancy comes near to delivery, the foetus presents a cephalic presentation<sup>24</sup> in normal pregnancy. It is not indeed known for certain how long human pregnancy lasts and likely does not the same in every female. It may be confidently affirmed that 40 weeks is the usual time, although a great deal has been written by medico-legal writers on this question and they differ widely in opinion.<sup>25</sup> The length of pregnancy is actually determined by the world health organization (WHO) that the normal term for delivery lies between 37 weeks to 42 weeks.<sup>26</sup> With regard to foetal presentation, the most common presentation is vertex presentation. The followings are the percentage of different kinds of presentation.

95 % vertex presentation commonly *occiput*

4 % breech pelvic presentation

0.5 % face presentation

0.5 % shoulder presentation<sup>27</sup>

Moreover, the engagement of the foetus usually occurs 2-3 weeks before labour begins. Engagement means the descent of the biparietal diameter of the foetus through the pelvic brim.<sup>28</sup> In addition, it can be considered

<sup>16</sup> Martini/ Bartholomew, Essentials of Anatomy & Physiology 4<sup>th</sup> ed. (San Francisco: Pearson Benjamin Cummings, 2007), 626.

<sup>17</sup> OI.59.

<sup>18</sup> A fibrocartilage pad where articulation of the two hip bones (pubis) of the opposite side occurs

<sup>19</sup> The sensation of decreased abdominal distention produced by the descent of the uterus into the pelvic cavity usually occurring 2-3 weeks before labour begins

<sup>20</sup> Miller. loc.cit.

<sup>21</sup> OTT. 9.

<sup>22</sup> The lie is the relation of the long axis of the foetus to the mother

<sup>23</sup> Miller. op.cit., 76.

<sup>24</sup> The head of the foetus occupies the lower pole of the uterus

<sup>25</sup> <http://legal-dictionary.thefreedictionary.com/pregnancy+duration>

<sup>26</sup> <http://encyclopedia.thefreedictionary.com/pregnancy+duration>

<sup>27</sup> 'http://www6.ufrgs.br/favet/immunovet/molecular\_immunology/reproduction.html'

<sup>28</sup> Miller. op.cit., 78.

as the level at which fetal head (in cephalic presentation of enumbred) or presenting part enters in to the superior pelvic strait, and begins its decent within the pelvis as its biparietal plane is below that of the pelvic inlet. So, it makes the mother feel the lightening (relief of abdominal distention). At term, the head of the foetus exceeds the mother's urinary bladder and rectum in normal presentation. Hence, maternal cavity visera can stay on top of the and small intestines are located on top and side of the foetal buttock because the typical attitude

<sup>29</sup>of the foetus is in full flexion.<sup>30</sup> This attitude of full flexion gives foetus a vertex presentation which is the only normal presentation.<sup>31</sup> Now the foetus is 40 weeks at term and ready to be born and starts its journey through the birth canal of the mother. The diagram of the full-term pregnancy is inserted at the end of this chapter in order to comprehend clearly the condition of the normal full term pregnancy.

### A Comparative Study of the Buddhist and Scientific View on the Foetal Condition

After thoroughly studying in and out of Buddhism and Medical science from all side views to the case of the foetal condition while it was still remained in the mother's womb, one came across that most of cases concerning were not much different with each other. On the whole, the Buddhist outlook is not very different from that of Medical Science.

"In respect of foetus in the mother's womb Buddhism and science say with one mouth that there is no other organ which exists in front of the foetus except the mother belly. Regarding the organ or structure which exists behind the foetus, Buddhism indicates only the back-bone of he mother while Medical science exposes not only vertebral column but it also shows kidneys which are upward slightly elevated. Further, Buddhism declares that all foetal limbs are flexed with the head of the foetus being superior and the buttock inferior. It also discusses that the mother stomach is above the foetal head and mother rectum is below the foetal buttock. While it says the foetus is lying upward, it also says when the time of delivery comes, then the lie {position} of the foetus is reversed and made upside down for production through *kamma*. On the other hand, medical science tells us that during most of (95%) your pregnancy the foetus' cephalic presentation becomes perfect till near term. Therefore, in medical science rectum and bladder are the internal organs of the mother, which are below the fetus's head. In addition, the mother's organs which are high to the foetal buttock are stomach of their mother, liver and small intestines. But in some cases, the position of such foetus become other than normal presentation i.e. breech or hip end presentation of foetal buttock is filling lower part of uterus. When the mother coughs, then the stomach liver and small intestines of the dam arise above the calf's head; and as also does its rectum and bladder lie under its buttock. In fact, the presentation of the foetus is not determined as fixed until this part has become engaged in the mother's pelvic cavity. Thereby, the position of the foetus can be adjusted by itself or with an appropriate action from midwife (manual). It can be inferred from comparative statements like this that therefore the ideas in Buddhist and Medical science about condition of foetus, relation with internal abdominal organs of the mother and position of the foetus are almost similar if not one. The mother's organs and its relationship between the foetus said above in Buddhism is not even a half as described by medical science. It is probably because Buddhism concerns primarily with the situation and environment of the foetus in its mother's womb that it want to emphasize on works crave during the time that it remained inside its mother's womb, as well as when sliding down along its natural birth passage.

### CONCLUSION

In conclusion, a review of Buddhist literature on fetal development in comparison with modern medical science indicates a high degree of conceptual concordance between ideas that were developed within contrasting intellectual traditions. Both views recognize the important anatomic facts that the fetus is located immediately behind the abdominal wall, with maternal spine serving as its posterior column. Whereas Buddhism's explanation is brief, focusing on the fetal position, location of and relationship to the mother's stomach/rectum, and process of inversion at birth, medical science uses a more extensive anatomical

<sup>29</sup> The relationship of foetus's different parts to each other

<sup>30</sup> Every foetal joint is flexed in full flexion

<sup>31</sup> Miller.op.cit.,77.

breakdown including surrounding organs (liver, kidneys bladder and intestines), differences in fetal lie/presentation.

However, despite variations in detail and nomenclature, the core observations found in Buddhist texts are remarkably similar to that established by clinical obstetrics. Both recognize that the fetal head descends into the pelvis in a non-occiput anterior (OA) position prior to birth, though other positions for delivery can happen. This divergence in the Buddhist emphasis probably also reflects its wider philosophic purpose—demonstrating the conditions of saṃsāric existence and karmic continuity—than presenting a complete anatomical work.

Therefore, the present study provides evidence that whereas biomedical science describes fetal development in strict physiological terms and Buddhism places it within ethical, karmic and existential discourses, explanations of fetal positioning and relations within the womb tend to be similar. Where congruences are encountered, they represent tacit acknowledgment of natural processes; where disparities exist, they point to the different purposes served by each framework: the development of scientific understanding or spiritual illumination.

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