

**WHAT STIMULATION THAT PARENTS CAN PROVIDE TO THEIR CHILD FOR  
HIS/HER HOLISTIC DEVELOPMENT FROM THE TIME OF CONCEPTION TILL  
BIRTH?**

**By**

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**What stimulation that parents can provide to their child for his/her holistic development from the time of conception till birth?**

*We wish our child becomes doctor or engineer or specialist in the field our child wants when grown up and make us proud!*

*We wish our child become successful in life!*

*We wish we should provide all happiness of this world to our child and give our best for his/her happiness!*

These are some of the wish lists or dreams of parents about their children and parents are putting their best efforts to achieve all their dreams. Parents have started dreaming from the time when a child conceives. As it proves that development of a child starts from the time of conception and it will continue till the age of 8. The first three years i.e. from conception till age three are very crucial years for a child's holistic development which includes physical, social, moral, emotional, spiritual and cognitive development. However, we really need to reflect are we truly fulfilling our child's demand and necessities from the time of conception particularly? Do we put our efforts for holistic development of a child instead of considering the physical development of a child only? Do we really aware what stimulation a child requires for the development from the time of conception till birth? In our wish list, are we also included the requirements that a child requires socially, emotionally, physically, morally, spiritually and cognitively at the time of prenatal? These are some perplexing questions which we really need to consider as a parent so that we nurture our child in a true sense. Unfortunately, a very less resources we found in literature that guides us about the stimulation that requires to raise our children by considering all domains of development from the conception time period.

Thus, this paper is an attempt to highlight the ways through which expected parents can support their children for their development from the time of conception till birth. This paper shares ideas to the parents about stimulation, which children are required for their development.

This paper is divided in three categories based on phases of child's physical growth, these categories are:

1. First Trimester (0-3 months/ 1-12 weeks),
2. Second Trimester (4-6 months/13-28 weeks), and
3. Third Trimester (7-9 months/29 weeks till the birth)

Each category first discusses the physical growth of a child and then it shares the stimulations or activities that parents can give to the children for their holistic development. This paper purely deals about the stimulation for holistic development of a child rather than based on from medical perspective. Therefore, this paper does not discuss about the medication, checkups or any prescriptions that a baby requires during pregnancy. Though, this paper considers the physical growth of a baby and development of different organs in terms of developmental aspects only. Further, the stimulation which are suggested in this paper are some recommendations not the only recommendations that parents can do for upbringing of their children, there can be more ways or activities which we can explore further. In short, this paper is the first effort to explore stimulation towards the development of a child from the time of conception till birth.

**Key words:**

- a) *Holistic development*: It comprises all the developmental domains like physical, cognitive, social, moral, emotional and spiritual development that are interconnected with each other
- b) *Parents*: It refers mother and father both
- c) *Stimulation*; To motivate, to excite, to rouse to action, to activate
- d) *Prenatal/Conception/pregnancy*: It is the time period which starts when a child conceives in a womb till the birth.

**1. First Trimester (0-3 months)**

First trimester which is comprised of initial three months or 12 weeks is very significant phase for a child development. This is the segment from where progression of a child begins, when child is just like a small cell and when parents are not even aware about the existence of their child. This is the phase when parents come to know about conceiving of a child. This is the most important time when different organs are started to form. Thus this period is actually

significant one where the base of a child develops. Here, we as a parents really need to reflect what stimulation we can provide to our children for their development during first trimester period? For that we first need to see the physical growth of a child and then we will analyze and explore the stimulation that we can provide to our children for their holistic development.

***Physical Growth of a baby in the womb:***

The first organ which has started to develop in first two weeks after conception is brain where neural tubes that connect spinal cord and brain are started to form and then neural creates the pathway which connects with other organs and controls all the functions of brain. Brain, that works with logic, thinking, memory, intellect; and controls all the sensory functions of a body in terms of sending and receiving messages (Cambridge Dictionary). Whereas the heart is the second organ which is developed within a month and starts beating 100 times in a minute. Heart as it defines as an organ which not only helps to circulate blood but also controls our feelings and emotions and defines our attitude and character as well (Merriam Webster Dictionary).

Similarly, the structure of head, arms, legs, neck, face, intestine and skeleton has begun to take shape in the second month. Even, features of human face like mouth, lips, tongue, nose, dark spots where eyes are located and tiny pits to mark ears are also forming in the second month. However, the first sense which has developed in a baby with the formation of basic structure and skin of a body is the sense of touch. The feelings of mother's body temperature, the water swirl around a body as vibration, the motion of hands and legs and the sucking of thumb during the first trimester period helps a child in developing the sense of touch as research done by Montagu (1978). Another study that was done by Durham University (2013) found that babies develop the sense of touch at the early age, which will continue at the later stage. They further added that through this sense of touch, babies become aware with their environment and create bond with their parents and people around them.

Thus, in first trimester, heart, brain, basic structure of baby's body and sense of touch has formed which is continued to develop further.

### ***Stimulation for the development:***

Stimulation that parents can provide to their child is the feeling of joy and calmness. When parents come to know about conceiving a child or even have some signs or feelings, they must feel good and remain calm; and welcome their child with joy and happiness instead of any stress and fear. Though, it is very natural phenomenon that parenthood brings lot of anxiety, but that anxiety must lead towards happiness not to fear or stress. Otherwise, the same feeling of stress or fear will take ground in child's heart and mind. As it proves by science through research that whatever parents think, feel and discuss, it directly transmits to a baby. Instead of thinking and discussing how to nourish their child, it requires to make a plan for child's nourishment. Instead of thinking and discussing what will happen in life, it needs to reflect on the purpose of life. Instead of thinking and discussing about the gender of a child, it requires to think how a child becomes a good human being who serves the humanity. This positive thinking and discussion will give optimistic thought to a child, which will help them to live their life meaningful with full of joy and peace. We really need to welcome our child by reflecting on the beautifying of nature and universe. The more positive parents are in their thoughts and feelings, the more positive nourishment they provide to the child for their development. These feelings and thoughts of positivity, calmness and joy will help to develop a very positive, confident, serene and energetic child as well as it also helps a child to perceive his/her life very worthwhile and full of living.

The second stimulation we can provide to the children is linked to neural activity where millions of neurons are initiated to connect and form synapses that base on experiences which a baby have in the womb of a mother. This early experiences will not only help to control all the functions of the body but also have impacts on babies' first movement. For having the better early experiences, conversation with a baby through talking, reading stories, singing rhymes and poems are the best stimulation that will help a baby to develop holistically. Proper nutrition and hygiene foods are the other stimulation that helps to develop the healthy connections in a child's brain. Meditation, breathing exercises and reflection of self and world are also the effective stimulus that will help in holistic development of a child in an optimistic manner. The continuation of positive thoughts further helps to send positive messages to the brain that eventually defines the healthy behavioral and cognitive development of a child at the latter stage.

During the first trimester, parents also need to provide stimulation for enhancing the sense of touch in a baby. At this stage, feeling of baby or mother’s body as soft or hard; the temperature of a body as warmth, swirling of water as vibrating effect are some of the ways through which babies respond via touch. Keeping the hands of mother and father on belly or tummy and rubbing on belly are the basic stimulation that will help a baby to connect with their parents or love ones. This feeling of touch also gives the sense of security and safety to the children. It also tells children that the safe and loving hands are waiting for them to hold and protect them in the outer world.

Concisely, the stimulation that parents can provide to their babies in first trimester is very important for their holistic development, which is further summarized in below table 1 along with the expected developmental outcomes.

**TABLE 1**

**First Trimester (0-3 Months)**

<b>Physical Growth</b>	<b>Stimulation provided by parents</b>	<b>Expected Developmental Outcomes</b>
<ul style="list-style-type: none"> <li>• Neural tubes that create pathways for brain activities</li> <li>• Construction of heart</li> <li>• Sense of touch</li> </ul>	<ul style="list-style-type: none"> <li>• Positive thinking and feelings of joy and happiness to welcome child</li> <li>• Conversation with a baby through reading stories, singing poems and rhymes, talking and reflecting about self and world, meditation and breathing exercises</li> <li>• Keeping the hand and rubbing on belly to connect with a baby</li> <li>• Proper nutrition and healthy foods</li> </ul>	<ul style="list-style-type: none"> <li>• A child can become Positive, confident, serene and energetic</li> <li>• Help to develop the language and communication skills</li> <li>• Calmness and self-awareness thinking skills are supposed to be developed</li> <li>• Sense of security and safety will enhance</li> <li>• Cordial relationship with parents will be developed</li> <li>• Healthy body will help to develop healthy mind</li> </ul>

**2. Second Trimester (4-6 months):**

Major development has been occurred and completed in second trimester where different skills are learnt by the baby in a mother’s womb. This period this is comprised of 4-6 months is the most prominent phase where the role of parents are increased further in terms of providing more stimulation to a baby for holistic development. Though the physical growth of a child is taken place to the greater extent. Similarly, the learning through senses has also enhanced in this

stage. The physical growth of a child and the stimulation that requires in second trimester are as below.

***Physical growth of a baby:***

At this stage, the external as well as internal organs are developed in full sense. The external parts like fingers, thumbs, fingerprints, nails on fingers and toes, hairs on body, ears, eyes, lips and nose are developed. Similarly, the internal organs like kidney, lungs, backbone, muscles and scalp patterns are formed. However, in this stage, a baby starts sucking his/her thumbs, swallowing the liquid around, movement of eyes begin, eyes blink and become sensitive to light. A baby's memory starts to form and the problem solving skills are also developed. The sense of taste of a baby has developed by taking the flavor of different foods and drinks that is taken in by his/her mother. Baby is also able to hear the low voices of blood circulation and the heartbeats, burbling noises from the stomach and the voices of their parents as well.

Thus the sense of taste and hearing has started to develop from the second trimester. The memory of a baby has also formed and stored from this stage that will continues till the lifetime.

***Stimulation for the Development:***

In second trimester, Parents can provide stimulation for the development of their baby is towards the senses of taste and hearing; and the memory of a child that will also help to develop the problem solving skills.

Nutritious and healthy foods with variety of flavors are the stimulation which is required to consider for developing the sense of taste. Parents have to provide the exposure of sweet, sour and bitter tastes to the baby, so that babies will prefer varied food to take after birth as studied by Mennella & Bobowski (2015). The taste of medicines which mother consumes during pregnancy also gives tastes to the children. Even the eating habits in a baby are also developed in the womb. Fussy eating habits of parents will develop the fussy attitude and eating habit in children too. If we want to train eating habits to our children, we have to start from the time of conception.

Babies are also able to hear voices before birth as studied by Kornas-Biela (2014). They can hear the noises of stomach gargling, heart beats and blood circulation as well as voices of their mother and father and also able to recognize their voices at the latter stage. Talking with baby,

reading stories and signing rhymes with different voice intonation will provide understanding of rhythm and low and high pitch to the baby. Music is another stimulation that will help a baby to develop the sense of hearing. Keeping the head phones on belly with sound of different objects and nature; voices of different people and family members; and audio recording of poems and stories are some of the ways that stimulate the sense of hearing in a baby, which actually help a baby to be attentive and become a good listener.

At this stage, memory of a child has started to form where the connections of neurons are getting stronger, which ultimately remains with a child throughout their life. It is also called Prenatal or Fetal memory that develops at the time of prenatal. This memory is helpful to building the bond between a child and parents, which enhances the notion of attachment of a baby with their parents. Learning language in the womb through stories, discussion and poems is one of the best examples of fetal memory, which has proved by many experiments and studies. Memory game is another best stimulation that parents can play with baby at this stage. For instance, the name of family members, voices of people and even the concept of oneness of Allah, spirituality, self and world can be shared through games with children that will store in their memory. Moreover, parents will play puzzles; solve critical cases or situations or word problems or riddles at this stage that will support to develop the problem solving skills of a baby.

The second trimester is very significant phase for a child development where we can help children to develop different skills, habits, routines and attitudes like problem solving skills, listening skills, eating habits and so forth that will remain with them throughout their life. Some of the stimulation that discussed above is further summarized in below table 2.

**TABLE 2**

**Second Trimester (4-6 Months)**

<b>Physical Growth</b>	<b>Stimulation provided by parents</b>	<b>Expected Developmental Outcomes</b>
<ul style="list-style-type: none"> <li>• Sense of taste</li> <li>• Sense of hearing</li> <li>• Memory of a child</li> <li>• Problem solving skills</li> </ul>	<ul style="list-style-type: none"> <li>• Variety of sweet, bitter and sour healthy food</li> <li>• Eating habit of parents to develop in a baby</li> <li>• Voices of parents and people around</li> <li>• Sounds of different objects and nature</li> <li>• Music, poems, stories and conversation with different intonation</li> </ul>	<ul style="list-style-type: none"> <li>• Acceptance of different taste of foods will develop</li> <li>• Eating habits will develop</li> <li>• Able to recognize the voices of parents that will strengthen the bonding of child and parents</li> <li>• Recognize and appreciate the different sounds and intonations</li> </ul>



	<ul style="list-style-type: none"> <li>• Putting headphones on belly for giving the exposure of audio version</li> <li>• Names and voices of family members</li> <li>• Concepts of Allah, spirituality, about universe and self through memory games</li> <li>• Puzzles, riddles, scenario or case studies are required to resolve</li> </ul>	<ul style="list-style-type: none"> <li>• Attentiveness, alertness and listening skills of a baby will develop</li> <li>• Recognize the family members through their names and voices</li> <li>• Understand and embrace the concept of spirituality, oneness of Allah and self-realization</li> <li>• able to solve problems by exploring the solutions and alternatives</li> </ul>
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### 3. Third Trimester (7-9 months):

In third trimester, the physical growth of a body has been completed and all organs are fully formed. In this stage, baby is actually showing excitement and readiness to enter this world through movement and development of other skills. The growth and details of stimulation are as follows.

#### *Physical Growth of a baby:*

At this stage, the brain become more active and controls the functions of sending and receiving messages to the body. The vision of eyes becomes more prominent where a baby can see light from the hole of a belly. Babies has developed the pattern of sleeping and waking by opening and closing the eyes. Babies can smell different odors and aroma in this phase, which also help babies in breathing as well. The body of a baby moves faster that shows the activeness of a child. A baby has also developed the rhythmic movement in the form of hiccup and demands more nutritious foods for fulfilling the needs of the body. A baby can also feel pain and pressure at this stage, which is the sign of his/her birth in the birth.

#### *Stimulation for the development:*

In third trimester, the stimulation that parents can provide for the development is related to the sense of sight and smell; sleeping and waking patterns, activities for brain and relieves exercise for releasing the pain and pressure.

As the sight of a baby is visible, the flashlight can be shown to the baby through the belly. We can play peekaboo with a baby by showing and hiding light. Baby in return will also give the responses through movements. Through using of light, we can develop the understanding of light

and dark as well as also share the concept of day and night with a baby. We can also discuss with a child about who is created day and night? How day and night are formed through the movement of sun and moon? This stimulation of light also helps to build the sleeping and waking pattern of a baby in a womb that will also be helpful after birth. Neuroscience has also proved that babies are also dreaming in the womb of a mother by becoming quiet and in a deep sleep. For that it requires to build the imagination of a child by discussing and sharing about the outer world so that a child has a positive dream and image about the world. Few minutes of loneliness and meditation are required to be spent by parents for the development of a child.

Research has shown that the smell sense of a baby is very strong at the time of birth, which indicates that babies are developed this sense in the womb. They can inhale the different odors and aroma, so parents can introduce it through foods and scents. This sense not only helps a baby in breathing but also prepare a child for breast milk, which a child through smelling grabs it after birth. Thus it also requires for a parents to provide stimulation for developing the sense of smell through the fragrance of flowers, perfumes and clean and hygiene foods.

The pain and pressure at this stage has not felt by mother only but by a baby also. Parents need to be relaxed and calm at this stage and put efforts to reduce the pain and pressure. Proper rest, exercises and nutrition are some stimulation that will help a baby to feel less pain and pressure. Parents also discuss and share with their baby about how to show reaction towards pain and how to deal with pain and pressure. It is also important to realize at this stage that pain is part and parcel of life, which we have to face and deal it. Brain teaser activities like puzzles, riddles, memory games, positive thinking and feeling are required to be continued at this stage.

Hence, the trimester stage is also the building block towards the development of a child. The summary of stimulation which is required in third trimester is as shown in table 3.

**TABLE 3**

**Third Trimester (7-9 Months)**

<b>Physical Growth</b>	<b>Stimulation provided by parents</b>	<b>Expected Developmental Outcomes</b>
<ul style="list-style-type: none"> <li>• Sense of sight</li> <li>• Sense of smell</li> <li>• Feelings of pain and pressure</li> </ul>	<ul style="list-style-type: none"> <li>• Flashlight needs to show through belly</li> <li>• Peekaboo game with light</li> <li>• Creating the pattern of sleeping and waking through light</li> </ul>	<ul style="list-style-type: none"> <li>• Concept of day and night, light and dark will develop</li> <li>• Get sense of outer world through light</li> </ul>

<ul style="list-style-type: none"> <li>• Brain activation</li> </ul>	<ul style="list-style-type: none"> <li>• Sharing the concept of day and night with discussion of its formation and movement of sun and moon</li> <li>• Broaden the imagination about this world through discussion and dreaming</li> <li>• Time for loneliness and meditation</li> <li>• Odor and aroma of flowers, perfumes and foods</li> <li>• Proper rest, exercises and nutrition</li> <li>• Discussion on how to deal and react with pain</li> <li>• Memory game, riddles, puzzles, positive thinking in continuation</li> </ul>	<ul style="list-style-type: none"> <li>• Develop the imagination skills</li> <li>• Calmness and solitude with Allah will develop</li> <li>• Positive image about the world will develop</li> <li>• Sense of sight and smell will be developed</li> <li>• Become ready to see the outer world and to sense the aroma of mother's body</li> <li>• Become able to handle the pain and pressure and to deal with confidence</li> </ul>
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**Conclusion:**

The development of a child has occurred in each trimester and each trimester has own significance where children have learnt different skills and attitudes that will ultimately help them in outer world. The proper stimulation at each level for increasing and developing the child holistically are required to be provided to a baby immediately after conception. Here, we also need to realize that the stimulation which is provided during the first and second trimesters must be continued till the end as the development of a child is continue till the birth and will remain continue after birth as well. Being parents, it is our responsibility to provide stimulation to our children from the time of conception so that we will build the life and future of our child from that time i.e. conception time.

These stimulations that discussed in this paper are only opening the ways to explore more stimuli that will help parents for their child's development. More studies in this area are required to be done in future. This is the high time to think and investigate about the development of a child holistically that includes cognitive, physical, moral, spiritual, social and emotional development. Though this paper enormously discusses the areas of development however detailed studies in each domains are needed to be done further.

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