

Original Paper

Early Stimulation Influences the Development of a Child between 0 and 3 Years of Age, in a Vulnerable Social Structure

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Abstract

The presence of Special Educational Needs (SEN) in students inserted in the school system has been a theme in which many areas of knowledge have tried to investigate. The psychological theory suggests that newborns begin their development starting from a similar basis, and that the different types of stimulation and the brain's ability to adapt to different episodes can be a determining factor in the development of skills and abilities. It is also considered that the family environment is the closest circle and with which the infants have the most contact in this period, therefore, the impact that the stimulation delivered by these people has on the adequate development of the cognitive, psychomotor and of a child's language, could be related to the presence of SEN and its subsequent consequences in the pedagogical and psychopedagogical areas when they enter the school system.

The present work aims to identify stimulation styles to favor the integral development of children up to three years of age.

Keywords

Special Educational Needs, stimulation, development

1. Background

The study context is a population with a high concentration of vulnerability. Rural and urban sector. The socio-affective, psychomotor and language stimulation provided by a family in a vulnerable socioeconomic context affects the development of a child between zero and three years of age, which is reflected in the presence of Special Educational Needs (SEN) when enter the school system.

According to the data provided by the Ministry of Education, over time, the detection of SEN in the Chilean school system has increased, which is reflected in the increase and use of various resources (human, economic and pedagogical) to respond to this need. If it is stated that the stimulation given by

the family in the first years of life affects the presence of SEN, it can be established that strengthening this stimulation will decrease the number of students with SEN.

Identify levels of stimulation delivered by families between zero and three years of age of the students of the Monseñor Guillermo Hartl Educational Complex and its relationship with the presence of SEN.

Show the factors that influence the learning difficulties of boys and girls, from the earliest stages of development.

2. Theoretical Framework

The factors to be investigated are the following:

- Prenatal stimulation
- Early stimulation
- Inadequate attachment bond
- Quality of early childhood education

Prenatal stimulation is a process that promotes greater learning capacity in babies in the womb. According to the World Association of Early Childhood Educators, they state that during the second half of pregnancy, fetuses are able to see, hear, taste, smell, feel and experience movements. The eyes, ears, nose, tongue, and mainly the skin, perceive the sensations and provoke certain actions. Today it is known that the baby can be stimulated before birth, the idea of prenatal stimulation is not new. Since the study of laboratory animals began in the 1960s, considerable progress has been made and the mechanisms involved are now better understood.

The moment in a person's life when their brain is fully developing coincides with the second half of their gestation. Stimulating it correctly at that time would be a great advantage in its future, since it would allow to act on the formation of its neural structure. (<http://www.crianzanatural.com/art/art36.html>).

Thus, it is known that from the third month of gestation its senses are already formed, and the fetus perceives the information through all its senses; he is able to react to this information and memorize it. It is also known that babies in the womb are sociable and communicative beings, that they feel love or rejection of their mother, that they feel pleasure and pain, that the stress of their mothers affects them - not only emotionally, but even interferes in the formation of their organs - they have a certain degree of consciousness.

These discoveries are already showing us that during the prenatal period the human being builds the first bases of his health, of his affectivity, of his relational capacities (of his capacity to love), of his Cognitive faculties "[http://www.slideshare.net/elizzabeth/prenatal stimulation](http://www.slideshare.net/elizzabeth/prenatal%20stimulation)".

3. Benefits of Prenatal Stimulation

From the womb, the baby feels and perceives pleasant sounds such as music, along with caresses, affection or negative sensations that the mother experiences throughout her pregnancy.

Research indicates that prenatal stimulation has a positive impact on future babies, and even from the womb its first benefits emerge:

- Greater attachment and interaction between mothers and baby.

- It enhances his senses, which will be very beneficial for him when he begins the learning stage.

- Improves the physical and mental health of the developing baby.

- They are more relaxed during their birth

- Develops communication, language, vocabulary, visual motor coordination, memory, reasoning and social intelligence.

- They sleep and eat better

- They are able to focus their attention for longer and learn more quickly

- Your language, music and creativity skills are superior

- They are more curious and they are able to process and process information more quickly.

- They show greater intelligence in their school age The important and ideal thing in a pregnancy is to live it in a positive, creative way, nature offers us nine months to create a bond with our baby, whether it be singing to him, talking to him, the beauty is transmitting your joy and illusions.

Direct prenatal stimulation seems to have a favorable effect on intelligence and IQ, all women are different and they cannot be expected to experience their pregnancy the same. You cannot give answers to everything because there are still many things that we do not know, despite the fact that much progress has been made in the understanding of life and fetal development thanks to ultrasound imaging techniques. Yes there is something universal, which is love and the mother's instinct and the important thing is that prenatal stimulation techniques teach us to provide the baby with a safe, loving and affectionate environment, before and after pregnancy. And don't put all our expectations on creating gifted children, because bonding and affection are what contribute to raising safe and happy children.

Many mothers stimulate their babies from the first trimester of pregnancy and although NOT doing it in any way turns out to be a disadvantage for the future child, it would be well worth enjoying these 9 months, strengthening the mother-baby bond with the support of some techniques. (<http://bebesyembarazos.com/beneficio-de-la-estimulacion-prenatal/>).

4. Importance of Prenatal Stimulation

It is important to distinguish education from instruction. Instruction is the transmission of knowledge and skills, and uses learning methods. But the baby in the womb should not be taught anything, to try it would be arbitrary and dangerous; it would be an intrusion into the training process and we would exert violence on him/her. On the other hand, the objective of education is to develop the potential of the human being and its adaptation to the world.

And education operates through three essential processes: impregnation, imitation, Identification and experimentation. In the prenatal period the impregnation is maximum, it is cellular. The child in the womb is impregnated with everything that his mother experiences. If parents are informed that their child is educated at the same time that he is being trained, they have the possibility of avoiding certain violence and can give him the best conditions for his most optimal development, according to his own dynamics and natural process.

The real intention of the stimulation is to help form an unborn child who is capable of facing life in the future, with common sense, coherence, intelligence and good humor. And it is important since it is based on the repetition of sounds that the baby can easily perceive. Without a doubt, the most common sound for a baby during pregnancy is the heartbeat of its mother. It is therefore a question of reproducing a similar, but not identical sound that the baby can capture and compare with the heartbeat of its mother. On the other hand, and to promote stimulation, the sound must change over time, so that the baby does not get used to hearing the same thing all the time. This exercise of comparison of auditory patterns and memory has been found to extraordinarily favor the development of synaptic connections, consequently reducing the neuronal mortality rate. Different scientific studies have been done on this stimulation system and the results have been really surprising and satisfactory. For example, if a baby is able to point out five parts of his body by mentioning them by 16 months of age, a stimulated baby is able to do so by 7 months. In general, improvements have been observed in the following aspects. On the other hand, no side effects from this type of stimulation have been observed in any case, neither at a physical, mental or social level.

The first experiences date back almost twenty years and the pioneer babies, now women and men, were evaluated during their childhood and youth without observing anything other than the advantages derived from prenatal stimulation. (<http://www.crianzanatural.com/art/art36.html>).

In all fields of science, we can see that a stop is made to reflect. We analyze the most important historical events of the century that account for current social phenomena, changes of direction in scientific research. Genetic engineering, the achievement of clones, and the paradoxical promise of the future. Science allows us to fly our imaginations and play at guessing the direction it will take at the beginning of the century and millennium.

The questions and reflections, we probably ask ourselves more as human beings than as professionals. Where is humanity going?

Specifically in the field of Early Stimulation, we have experienced great enthusiasm. Science and research about brain development has leaked out into the world of dads. We can locate this enthusiasm as a growing wave from the 70s to the present day. Where several currents of thought and action were mixed and fertilized:

On the one hand, the thesis of “Cultural Deprivation” in Latin America. It became aware that babies born in low-income families, who were abandoned because the mother had to go out to work, suffered a deterioration in their nervous system and in their ability to learn. It was necessary to find a way for the

baby to receive sensory stimuli and affection, from the first days, to preserve its learning potential. We also have the investigations carried out with orphans in institutions and the negative effect of emotional and sensory abandonment.

The “Special Education” also contributed to paying attention to the tiny baby. A baby who is born with problems and receives early attention, it is likely that his brain compensates in some way for potentially problem functions and that the future of that child will be more shiny.

On the other hand, the “Scientific Current”, the influence of Piaget and his followers and more recently “The investigation of the neurophysiology of the brain” disseminated in the articles of Newsweek and Time magazines “Emotional intelligence” and “multiple intelligences” by Gardner.

Now, from a Kinesic perspective, brain plasticity and early stimulation have a lot to contribute:

The brain of a child at birth shows only primitive reflexes, without any already integrated behavior patterns, which is why it has the ability to assimilate all the experiences and stimuli received from the environment that surrounds it, this characteristic is called plasticity cerebral.

The term “plasticity” has been used to describe various types of change associated with the neuron and its connections. Plasticity is defined as the ability of a neuron to adapt to changes in the internal or external environment, previous experience or injuries. (Gispen).

Other authors, such as C. Cotman, define it as the general capacity of the brain to adapt to different demands, stimuli and environment, that is, the ability to create new connections between brain cells, which allow that, although the number of neurons can remain unchanged, the connections or synapses between them can vary, and even increase in response to certain demands.

This brain that is still immature at birth and in the process of formation, will begin to make endless neural connections (synapses), which will be made as the body requires them. During the first years, the minor will lose those neural connections that are used less and those that are used more frequently will be reinforced.

Inappropriate stimulation received by the infant or non-stimulation results in synapses not being made in the correct way (in relation to the number of synapses and their quality) and therefore less cell proliferation is appreciated nervous, so their number progressively decreases. With all these antecedents it can be concluded that the lack of stimulation can have permanent and irreversible effects on the development of an immature brain, since we will find an alteration in its correct organization and functioning.

The development of the brain before the first year of life is fundamental, since it is much more sensitive to the influence of external factors, since these changes will generate immediate effects. If the conditions in which the infant develops are favorable and stimulating, it will have immediate repercussions on learning and development.

Some of the factors that influence creating a favorable environment for the stimulation of children are, for example, the parenting style of the parents, the affective relationship with their caregiver and the quality of the stimulation they receive (which is often related with the socio-economic level or

educational level of their caregiver) age of the parents (elderly parents or adolescents), absence of a parent, maternal depression, addictions, etc.

Considering that in each stage of development different areas prevail, the delays that can be observed in minors will manifest according to that, for example in the first months of life until the year, delays are mainly seen in the motor area, the second year of life, behaviors more closely related to mental development are observed. Early motor development is closely related to the development of language skills.

In order for perceptual skills to be developed, the minor must execute certain motor skills, since motor skills generate a change in the referential position in space, thus allowing the acquisition of new skills (T. Torralva).

Psychomotor development and relationship with socioeconomic status.

Child psychomotor development is considered to be a process full of continuous changes mainly throughout the first years of life, in which the child learns to master increasingly complex levels of movements from the most global to the most specific.

It is a multidimensional process, which includes both physical and motor changes, as well as an intellectual, emotional and social level. (T. Torralva)

The development of the child is highly variable and depends both on the maturation of the systems of each child as well as the environment in which it develops.

Regarding sensory stimulation, it has been shown that from prenatal instances it affects everything corresponding to the structures and organization of neural pathways during the training period (T. Torralva), thus establishing the biological bases for a normal development. It should be considered that the human brain is not definitely developed at birth, so it is vitally important to correctly stimulate the child to achieve a positive and complete development, with which it will have a potential for resistance to the physical and psychological adversities that he must face in the course of his life, on the contrary, a genetic constitution that is adverse or insufficient prenatal care establish bases for a vulnerability in development if, in addition, poor quality stimulation is added during the first childhood stage.

A child who presents biological indemnity -that is, born without pathologies, with a pregnancy without complications or previous antecedents- will follow a pre-established course developing all the fundamental milestones, on the other hand, if the environment is unfavorable it can trigger a slowdown in the rhythm of development, which will decrease the quality with which the child interacts with his environment and thus would end up restricting his learning capacity (De Andraca).

One of the fundamental factors for correct psychomotor development is the relationship with caregivers, which generates in children a feeling of well-being and basic trust, so the absence of this or the fragility of the infant's bond with their caregivers generates an important risk factor for its correct psychomotor development, (Lira).

In families with a lower social stratum, it is appreciated that parents often cannot deliver quality stimulation to their children, due to the rhythm of life they have, since most of the time they spend most

of the time working Outside the home, or in the home there are not the necessary conditions for it, the environment is not very conducive to it (small houses in which many times overcrowding is appreciated, or they do not have the basic conditions to live, in addition to repeated episodes of mainly respiratory diseases on the part of the minors so that other activities cannot be carried out, many times in addition the low educational level of the parents causes that the stimulation carried out is not of quality).

“Any action tending to enrich the motor, verbal and cognitive development of a Baby must take place in a loving context, of deep bonding connection” (A. Cespedes, 2019).

It is true, it is a crucial age for the development of children and the obligation of parents is to provide them with all the conditions to promote their physical and brain development.

“The child must grow up in enriched environments according to his age: one that favors wide, free movement, because before the year the movement begins and it is very active”, explains *Amanda Céspedes, a specialist in child neuropsychiatry.*

According to the specialist, spaces and contexts that promote children’s freedom of movement and games that enrich their incipient verbal language.

However, this development of the child’s abilities in time must take place in an environment of emotional safety, where they feel good emotionally and the bond with their parents is forged.

It is recommended that stimulation and connection be complementary: it is very different to leave the child alone with a series of objects to interact with, than to accompany him in the process.

The bonds and their implication in the development of the child.

From the model of human brain development, the bond between mother and child is essential for integral health. This begins to be created before birth and is greatly strengthened during the first two months of life.

The provision of care with special request creates a deep bond, mediated by the hormone oxytocin. This favors the physical health of the baby, raises the defenses, protecting it from infections and strengthens the nascent communication capacity, says the doctor.

This link is the basis of the mental and integral health of the person from birth to death. And it is that, through this relationship, the child learns that there is someone willing to comfort him when he is afraid or faces difficult moments.

In addition, Amanda Céspedes points out, the bonds of attachment constitute the platform for intellectual abilities such as imagination and creativity.

What happens if this process is not done properly? According to specialists, 75% of adult psychiatric disorders have their origin in an insufficient bond during the first months, either due to its absence or because they are erratic, inconsistent or frankly altered.

And if it is about promoting learning at an early age, its impact is also overwhelming. “Severe alterations of the primary bond, from birth onwards, damage the neuronal connections ready to learn,” concludes Céspedes.

“Most everyone thinks they know what an emotion is until they try to define it. At that time, practically no one claims to understand it” (Wenger, Jones and Jones, 1962, pg. 3).

5. Conclusion

In summary, theories in relation to socio-affective, psychomotor and language development, conceive the child as an active processor of environmental stimuli, thus generating what will determine their future behavior in the face of various realities.

As Feuerstein also points out (in Fuentes, 2000), cognitive development occurs thanks to the intervention of an efficient mediator (family and/or caregivers). In addition to raising the principles of intention and reciprocity, transcendence, meaning, emotions, capacities and regulation of behavior, mainly. Theories of cognitive development represent a great contribution to education since it allows knowing the capacities, skills and abilities of children at each age. However, the speed of change and the large amount of information, social variables, that characterize today's world make necessary a new type of family and social context that surrounds a newborn child up to three years old, it is for this reason that a correct learning, prenatal and postnatal stimuli, are becoming more and more necessary every day so that affective, cognitive, physical development becomes an ideal training process.

According to studies, both the quality of the stimulation delivered to children is important, as well as the time used for it, since exceeding the stimulation times for each age group can be detrimental to the development of the child, since the stimuli pass from being something positive to being a source of exhaustion and lack of interest.

According to the problem presented, it is pertinent to carry out an investigation that will allow to demonstrate the importance of the family context for the stimulation of a child between zero and three years of age and the presence of SEN in the Chilean school system.

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