

Review Article

Early Childhood Development: An Emerging Issue

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Abstract :

The first five years of a child's life i.e early childhood period ,often called the 'formative years', are absolutely critical for the development, performance and success of the child throughout his life. It is the period in which the foundations for future life take place. The appropriateness and quality of care and childhood opportunities and experiences that a child receives during this period

may ultimately determine adult hood and his/her ability to contribute to society. Recent neuroscience shows that development of the brain over the first five years is more rapid and intensive and more vulnerable to external influence or the environment. Opportunities taken or missed during this period will have profound influence in the future life of a child.

Early childhood development and its relation to holistic development

The developmental process that a child goes through the period from conception to age 5 years is termed as 'Early childhood Development (ECD)'. This period is most vulnerable time to subsequent growth, development and ultimate productivity. Growth refers to specific physical changes and increase in size of different parts and organs of the body. For example, additional numbers of cells, as well as enlargement of existing cells, accounting for changes in height, weight and body shape. Development refers to maturation of function acquiring skills, behavior and values on the part of a growing child. It is a process of change in which the child comes to master more and more complex levels of moving, thinking, feeling, and interacting with people and objects in the environment .For optimum growth we have to ensure adequate nutrition and health care. For optimum development we have to ensure the presence of an environment, which facilitates positive interaction of the child with his or her caregivers and surrounding animate and inanimate objects. At the same time we also have to ensure the avoidance of factors, which can exert negative influences on the developmental process. The complete development of the child encompassing both growth and development is termed **holistic development**.¹

Research indicates that healthy outcomes for children become more likely when a child's early life experience involve relationship with adults and caregivers that

are nurturing, reciprocal, dependable and stable. International attention to early child hood care and development has grown out of the recognition that intellectual, emotional and physical development, socialization, and acquisition of culture all interact in shaping a young child's life. So the period of early childhood development has a strong and positive impact on further development and learning in later ages.¹

Anatomy and physiological basis of early childhood development .

a. The baby's brain and its growth

Brain development is directly related to maturation of brain i.e. increase in the number of cells and increase in the number of connections. Increase in number of cells occur during intrauterine period i.e in mothers womb and is facilitated by care during pregnancy. Increase in the number of cells is almost complete at birth and a new born baby has 100 billion cells i.e like that of an adult. But connections are not developed. Though neuronal connections start in utero but 80-90% of the connections develop after birth within 5 years of age. At birth a new born baby has 50 trillion connections and by 3-5 years 1000 trillion connections are developed i.e most of the connections of the brain. However the rate of connections and their fine development is mostly completed in the first 3 yrs of life.²

b. Process of formation of brain's connections

Neurons are perfectly designed for making connections. Each cell sends signals to other cells and receives input from other cells. The signals, in the form of electrical impulses, travel down the length of the

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nerve cell. With the help of special chemicals the neurotransmitters, they travel from cell to cell, creating connections. Repeated interactions / stimulation from the environment increase these connections. Human development depends on the interaction between nature and nurture. The quality of the infant's interaction with the environment and the relationship with the caregiver allows synapses of brain cells to take place and determines the foundation of lifelong learning. Brain is changed by experience and stimulation. Early care and nurturing have a decisive and long lasting impact on how people develop their ability to learn, and their capacity to regulate emotions.^{2,3}

Why did we choose to focus on children below 5 years?

From the human development perspective, this is the window of opportunity we must seize now or we will forever lose the vast human potential that exists in these children. Timing is critical. There are periods in life when the brain is particularly open to new experiences and especially able to take advantage of them. Circuits in different regions of the brain mature at different times. As a result, different circuits are most sensitive to life's experiences at different ages. Different domains or aspects of brain development and function occur during certain period. If these sensitive periods pass by without the brain receiving the stimulation for which it is primed, opportunities for various kinds of learning may be substantially reduced. So brain development is a use it or lose it process.^{2,3}

Why do we give importance to early childhood development?

Quality early child care helps the brain to develop well, but if the child care methodology does not afford opportunity for stimulating experience within a conducive environment, then the development of the child's brain is compromised. More and more studies continue to support the fact that investments in early childhood education and development results in large returns and benefits. From the World Bank 2006 report on Early Childhood Development we can say that there is now incontrovertible evidence that "programmes which promote the growth and development of young children (0-6) are the best investments for developing the human capital necessary for the economic growth of a nation". The quality of life for a child and the contribution the child makes to society as an adult can be traced to the first

five years of life. During this period a child undergoes tremendous growth and change. On the other hand there is sufficient evidence to show that children brought up with aggression, lack of love and attention and children from broken homes and dysfunctional families, are more likely to develop behavioral problems as they approach their teens. Truancy, school drop-outs, juvenile delinquency crimes, smoking and substance abuse are among the common manifestations of social ills.^{4,5,6}

Domains of Development

Development means the acquisition of different types of skills/ capabilities. Based on their capabilities, development has been divided into 8 categories or domains such as cognitive, motor, vision, hearing, speech, emotional, social, self help autonomy. However one must remember that all areas of development are intimately related and mutually supportive. No aspect of development develops independently and each skill reflects a blending of other skills.⁷

Early childhood environment

Early childhood environment is those spaces that are designed to accommodate young children and stimulate their senses in away that both pleases them and teaches them.

This environment can be in home, an early learning centre, kindergarten, preschool and park or garden, it may even be in a shopping centre of a city centre. What will define it is that it pleases the child that enters it and contributes to their learning.⁶

A safe Child friendly environment

From conception and throughout early childhood, all infants and young children need safe and secure upbringing in a friendly and stimulating environment. It is also a period characterized by rapid development of brain cell connectivity – the process that enables children's development of cognitive abilities and skills. In addition to basic needs for good health and nutrition early childhood is considered to be a critical period where infant and young children are in significant need protection, love, interactive care and stimulation. The more love and interactive children receive in a safe and friendly environment, the more brain cell connectivity, and the better children will be equipped to interact socially, to learn and acquire and new skills and ultimately develop to the full potential throughout life.

Thus for an ECD friendly environment one must ensure for the child:

1. Care of the mother during pregnancy – both from health and psychological aspects i.e. happy, healthy pregnant women.
2. A family that understands and is responsive to the child's needs. I.e. an empowered family.
3. A family where caregivers interact with the child
4. A safe and enabling natural environment
5. A responsible society/community

What babies and infants need in an environment:

1. Feeling of safety
2. Feeling of security
3. A place rich in opportunities
4. Movement and different perspectives
5. Age specific stimulation especially in home, clinics and hospitals e.g. indoor and outdoor. Softer sounds and images are more appropriate for ill or premature babies.^{6,7,8,9}

Age/milestone specific interactive activities for ECD

Interactive care is essential for the development of a child. Each time child uses one of her senses – seeing, tasting, touching, hearing, and smelling – a connection is made.

When a child has different kinds of experiences, and these experiences are repeated over and over again, the connections in the brain become stronger. These connections shape the way a child thinks, feels, behaves, and learns. By about age three, the brain has many more connections than it will ever need. As the child grows the brain gets rid of the connections that are rarely used. The connections that are frequently used continue and become permanent.^{6,10,11,12,13,14}

Interactive care must be:

1. Age appropriate
2. Daily and repeatedly
3. In multiple ways utilizing all five senses
4. Equally for both boys and girls
5. In a safe, secure, enabling and stimulating environment

Some examples of age specific interactive care

In Pregnancy If we Keep mother in a happy and peaceful family environment, it will help in the development of the baby esp. cognitive and emotion aspects.

From Birth-6months when breast feeding mother will be attentive to the baby, make's eye contact with and talk or sing softly to the baby, it will help baby feel more secure, increase attachment to mother, help develop his attention span, it will also help baby to recognize faces and voices, cognitive, emotional and language development.

From 7-12 months shows baby color pictures/photos of familiar objects and persons, it will help baby correlate photos with actual objects and persons – cognitive development.^{6,7,9,15,16}

Conclusion:

Early childhood development is the foundation for the formation of quality human capital; has the highest return in economic development and is the most cost-effective way to reduce poverty and to foster economic growth. Indeed caring and developing our children correctly is something that we must do not just for the benefit of the children, but also for the future of our country. As the ancient Chinese proverb goes

“One generation plants the trees; another gets the shade.”^{17,18,19}

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