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## Importance of Early Childhood Development

Beena Johnson

Baby Memorial Hospital,  
Kozhikode 673004

**Address for Correspondence:** Dr. Beena Johnson, Developmental Paediatrician & Senior Consultant in Child Guidance, Baby Memorial Hospital, Kozhikode, Kerala, India. E- mail: [jiacam@gmail.com](mailto:jiacam@gmail.com)

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### Introduction

Early childhood development forms the foundation for lifelong health and well-being of an individual. The neonatal period, infancy and toddler age are the most critical periods of brain development of children. Early childhood development refers to the physical, intellectual, language and social-emotional development of young children with focus on the first two to three years of life.

### Early Life Experiences and Neural Plasticity

Everyday experiences during early childhood significantly influence the brain development of children. Research has provided insight into the processes which lead to early brain development. Brains of young children, exposed to different types of environmental stimuli, develop in different ways. The experiences in the first few years of life are very important in modulating neural plasticity [1]. Neural plasticity is the ability of the nervous system to modify functionally and structurally, according to experience [2]. The developing brain shows significant capacity for plastic change in response to sensory and motor experience, parent-child relationships as well as peer relationships [3,4]. Neural plasticity plays critical role in the cognitive and behavioural development during childhood [5]. Early life experiences, especially through parent-child interactions, lead to formation of billions of synapses which control the intellectual, emotional and physical responses of an individual.

### Significance of Early Developmental Interventions

Many young children in developing countries are having malnutrition and are brought up in unstimulating environments, which negatively affect their intellectual, physical, language and social-emotional development. Several children are globally failing to reach their developmental potential [6]. More than 200 million children in the world, below 5 years are not attaining their developmental potential [7]. Developmental potential is the ability to attain

all the milestones of development, appropriate to the age. Unfavourable conditions during early years of life, can impair the normal development of brain. Children who do not acquire adequate language skills in the early years can have reading difficulty during school-age. Young children who could not develop secure emotional attachments with parents, may have social-emotional challenges throughout life. The neural plasticity decreases with age, but greater neural plasticity in the early years of life indicates that brain development can be improved by early developmental interventions. Malnutrition and inadequate early learning opportunities can lead to impairment in intellectual and academic development of young children [8]. Good nutrition during the early years of life is necessary for physical and cognitive development. Brain requires several nutrients and adequate consumption of all nutrients are critical for brain development. Early provision of adequate nutrition and opportunities for developmentally appropriate learning, through caregivers have been associated with positive outcomes in early childhood development [9]. Long-term benefits occur as a result of intensive early developmental interventions for young children [10]. Promoting early childhood development is necessary to enable every child to reach the full developmental potential [11]. Professionals in child care should protect and support optimal child development in order to build healthy and socially competent future generations [12].

### **Parent Mediated Interventions**

Active and empathetic parent-child interactions promote socioemotional development as well as physical and cognitive development of children [13]. Early child developmental outcomes can be improved through parental support programs [14]. Parents and families should be supported for providing nurturing care and protection for young children to achieve their developmental potential [15]. Parenting interventions during early childhood are effective for improving early child development [16]. Families have very important role in early developmental interventions [17]. Parent-mediated programmes are found to be effective for young children with developmental delay and neurodevelopmental disorders. Parent mediated interventions positively influence the developmental outcomes of children with autism spectrum disorder [18]. Use of child-directed skills by mothers have a significant role in the improvement of language skills of children [19]. Training the parents for implementing communication interventions leads to improved language outcomes for children [20].

### **Conclusion**

Rapid gains in physical, cognitive, language and social-emotional domains of development during early childhood form the foundation of children's future growth. The parent-child interactions are very effective for early childhood development and these interactions have long lasting positive effects in the personality development of an individual. All children should be provided adequate nutrition and opportunity for optimal development. Parent mediated interventions have an important role in improving early childhood development. Professionals in child care, parents and communities have to collectively promote early childhood development. Thus we can lead our children towards healthy and bright future life.

### **References**

1. Adrienne L. Tierney and Charles A. Nelson, III Brain Development and the Role of Experience in the Early Years. *Zero Three*, 2009 Nov 1; 30(2): 9-13.
2. von Bernhardt R, Bernhardt LE, Eugenin J. What Is Neural Plasticity? *Adv Exp Med Biol*. 2017;1015:1-15.
3. Kolb B, Mychasiuk R, Muhammad A, Gibb R. Brain plasticity in the developing brain. *Prog Brain Res*. 2013;207:35-64.

4. Kolb B, Harker A, Gibb R. Principles of plasticity in the developing brain. *Dev Med Child Neurol*. 2017 Dec;59(12):1218-1223.
5. Fandakova Y, Hartley CA. Mechanisms of learning and plasticity in childhood and adolescence. *Dev Cogn Neurosci*. 2020 Apr;42:100764.
6. McCoy DC, Peet ED, Ezzati M, Danaei G, Black MM, Sudfeld CR, Fawzi W, Fink G. Early Childhood Developmental Status in Low- and Middle-Income Countries: National, Regional, and Global Prevalence Estimates Using Predictive Modeling. *PLoS Med*. 2016 Jun 7;13(6):e1002034.
7. Grantham-McGregor S, Cheung YB, Cueto S, Glewwe P, Richter L, Strupp B; International Child Development Steering Group. Developmental potential in the first 5 years for children in developing countries. *Lancet*. 2007 Jan 6;369(9555):60-70.
8. Hurley KM, Yousafzai AK, Lopez-Boo F. Early Child Development and Nutrition: A Review of the Benefits and Challenges of Implementing Integrated Interventions. *Adv Nutr*. 2016 Mar 15;7(2):357-63.
9. Black MM, Dewey KG. Promoting equity through integrated early child development and nutrition interventions. *Ann N Y Acad Sci*. 2014 Jan;1308:1-10.
10. Palfrey JS, Hauser-Cram P, Bronson MB, Warfield ME, Sirin S, Chan E. The Brookline Early Education Project: a 25-year follow-up study of a family-centered early health and development intervention. *Pediatrics*. 2005 Jul;116(1):144-52.
11. Richter LM, Daelmans B, Lombardi J, et al. Investing in the foundation of sustainable development: pathways to scale up for early childhood development. *Lancet*. 2017;389(10064):103-118.
12. Lucas JE, Richter LM, Daelmans B. Care for Child Development: an intervention in support of responsive caregiving and early child development. *Child Care Health Dev*. 2018 Jan;44(1):41-49.
13. Bornstein MH, Britto PR, Nonoyama-Tarumi Y, Ota Y, Petrovic O, Putnick DL. Child development in developing countries: introduction and methods. *Child Dev*. 2012 Jan-Feb;83(1):16-31.
14. Brentani A, Ferrer APS, Bessa L, Chang S, Walker S, Powell C, Hamadani J, Grisi S, Fink G. Survive and Thrive in Brazil: The Boa Vista Early Childhood Program: study protocol of a stepped-wedge, randomized controlled trial. *Trials*. 2020 May 7;21(1):390.
15. Britto PR, Lye SJ, Proulx K, Yousafzai AK, Matthews SG, Vaivada T, Perez-Escamilla R, Rao N, Ip P, Fernald LCH, MacMillan H, Hanson M, Wachs TD, Yao H, Yoshikawa H, Cerezo A, Leckman JF, Bhutta ZA; Early Childhood Development Interventions Review Group, for the Lancet Early Childhood Development Series Steering Committee. Nurturing care: promoting early childhood development. *Lancet*. 2017 Jan 7;389(10064):91-102.
16. Jeong J, Pitchik HO, Fink G. Short-term, medium-term and long-term effects of early parenting interventions in low- and middle-income countries: a systematic review. *BMJ Glob Health*. 2021 Mar;6(3):e004067.

17. Hadders-Algra M. Early Diagnostics and Early Intervention in Neurodevelopmental Disorders-Age-Dependent Challenges and Opportunities. *J Clin Med.* 2021 Feb 19;10(4):861.
18. Trembath D, Gurm M, Scheerer NE, Trevisan DA, Paynter J, Bohadana G, Roberts J, Iarocci G. Systematic review of factors that may influence the outcomes and generalizability of parent-mediated interventions for young children with autism spectrum disorder. *Autism Res.* 2019 Sep;12(9):1304-1321.
19. Garcia D, Bagner DM, Pruden SM, Nichols-Lopez K. Language Production in Children With and At Risk for Delay: Mediating Role of Parenting Skills. *J Clin Child Adolesc Psychol.* 2015;44(5):814-25.
20. Roberts MY, Curtis PR, Sone BJ, Hampton LH. Association of Parent Training With Child Language Development: A Systematic Review and Meta-analysis. *JAMA Pediatr.* 2019 Jul 1;173(7):671-680.