

Early Childhood Development (ECD) in context of COVID-19.

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Abstract

The early years of child are very important for future of adult development. The brain development depends on early childhood experiences which results in learning, health, behavior, employability and ultimately income. Yet today, millions of young children are not reaching their full potential because inadequate nutrition, lack of early stimulation, learning nurturing care and exposure to stress adversely affect their development. It is therefore of paramount importance that everyone knows about Early Childhood Development (ECD) and parents, communities, Government, non-Government organizations and academia invest in it. ECD includes development of a child from conception to 3-6 years which is extended up to 8 years. Early target should be caregivers with focus on fetus and children up to 2 years *i.e.* first 1000 days. COVID-19 related awareness can accompany ECD awareness and supports for parental well-being and responsive caregiving. The coordinated actions and shared responsibility is the need of hour to fight against the negative impact of COVID-19 on young children. To conclude, the strategy should include multi-sectoral approaches and coordinated efforts in health, nutrition, security, protection, participation and early education.

Keywords: Early Childhood Development (ECD), Covid 19, Multi-sectoral approaches.

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Introduction

Investing in the early years is one of the smartest things a country can do to eliminate extreme poverty, boost shared prosperity, and create the human capital needed for economies to diversify and grow. Early childhood experiences have a profound impact on brain development affecting learning, health, behavior and ultimately, income. Yet today, millions of young children are not reaching their full potential because inadequate nutrition, lack of early stimulation, learning nurturing care and exposure to stress adversely affect their development. It is therefore of paramount importance that everyone knows about early childhood development and parents, communities, Government, NGOs and academia invest in it.

Early childhood development includes development of a child from conception to 3-6 years, extended up to 8 years. It is a maturational process resulting in an ordered progression of perceptual, motor, cognitive, language, socio-emotional, and self-regulation skills in a child. Thus, the acquisition of skills through the life-cycle builds on the foundational capacities established in early childhood. It implies that children, when given right attention *i.e.* nurtured not only survive but thrive. The child develops all the skills when it is provided with care right from conception to childhood. So ECD is also the nurturing care of a child.

The Term ECD was First Coined by Friedrich Frebel in 1997

At that very year Canadian singer Raffi Cavoukian started a foundation and put forth the concept of child honor and respect

from early days. He said 'when you pay attention to the beginning of the story, you can change the whole story'. Lancet series 2008, 2013, 2016, and 2017 brought out the importance of ECD. Various papers highlighted that ECD is one of the aims as well as prerequisite for achieving Sustainable Development Goals (SDG-1,2,3,4,5,10,16,17). UNICEF and WHO emphasized the importance of nurturing care-ECD (NC-ECD) if one wants full developmental potential of children, to be exploited and reached. UNICEF advocated the theme 'Early moments matter.' Seven countries adopted it in 2000 and the number increased to 68 in 2014. India has adopted ECD in its various national programs mainly related to health and nutrition.

What are the Domains (Components) in ECD?

As we know, growth is increase in size, while development means maturation of function. Multiple factors influence child development, acquisition of competencies and skills. There are 5 main factors or domains that come into play in providing nurturing care. They include:

- Health,
- Nutrition,
- Security and safety,
- Responsive care giving, and
- Early learning.

Nurturing care reduces the detrimental effects on brain structure and function which, in turn, improves children's health, growth, and development. A study in Jamaica proved that nutrition alone cannot make miracles in children's health but stimulation along with supplementary feeding can result in

remarkable improvement in health and nutrition of children with 25% higher productivity. An interesting long term study was done in Jamaica in 1986-1987 when 126 stunted children were subjected to four regimens of treatment by health workers.

- Only nutrition,
- Nutrition and stimulation with psycho social support,
- Only stimulation and psycho social support and
- Controls.

In addition 84 non stunted children served as controls. Children were treated for two years by health workers and followed for more than 20 years. The stimulated group was seen to be much better by 25% increase in productivity than other groups. It was observed that stimulated children showed improvement in cognitive function, greater level of education, higher IQ and better psychosocial skills. Logically, parental investment was more in them. There is an increasing amount of evidence from low resource settings that programmes to improve infant stimulation and enhance parenting have a beneficial effect on children's long term mental health. They have additive effects when combined with nutrition programmes. They improve children's growth and developmental outcomes in the long term. More than 13 studies have shown similar improvements on early stimulation. In a systematic review and meta-analysis by Frances Aboud and Aisha Yousufzai have shown that out of 21 interventions aimed at enhancing stimulation and 18 interventions that provided better nutrition conducted since 2000, revealed that stimulation had a medium effect size of 0.42 and 0.47 on cognitive and language development, respectively, whereas nutrition by itself had a small effect size of 0.09.

Brain development starts as early as 7th week of pregnancy, the neural plate begins to grow and fold, develops many nerve cells which grow rapidly. 250,000 new neurons form every minute and the neuronal formation is complete by 3rd trimester of pregnancy. At birth there are around 100 billion brain cells, they start to wire themselves making synaptic connections between neurons. Axons and dendrites establish connections. This strengthening of synapses is influenced by nurturing and results in learning, remembering, feeling and behavior. So, the brain is like a sponge in respect to nurturing and stimulation. The more you stimulate, more is absorbed into the brain. Building of synaptic connections as enumerated above is the second step after neuronal multiplication. Neuronal migration to the critical areas of brain during this period is the third step. Migration occurs to hippocampus and prefrontal cortex. Then starts the process of neuronal pruning, it involves removal of unwanted connections and goes on up to adolescence.

This critical period of brain development is influenced by good nutrition. Stimulation security safety early learning and responsive care giving concept of 1000 days: there are three windows of opportunity wherein interventions have long lasting effects on development. These are:

- Conception: Periconceptional period one month before and two months after conception – gastrulation.

- 1000 days: conception to 2 years of life 270 days of pregnancy + 730 days *i.e.* two years.
- Adolescence: According to some studies, the period is stretched upto 7000 days. First 1000 days of life is the most important window of opportunity which can change the future of an individual. These early years of life require adequate nutrition and stimulation from caretakers which can help the child to gain good developmental potential. Research suggests that the brain in prenatal period and infancy is plastic and responds to social interaction by the parents [1]. If not stimulated and if adequate nutrition is not given child is stunted and result is stunted adult with stunted brain. Poverty and stunting have an intergeneration cycle which perpetuates over generations. To halt this vicious cycle, NC-ECD is a very important intervention. Second window of opportunity to intervene includes adolescence. Nutrition and health are essential components especially for a girl child
- Global studies: 43% of world's population is stunted and lives in poverty and these children cannot reach their full potential. Similarly 66% of Sub-saharan African and Asian population face the same problem of childhood stunting. Raffi Cavoukian has written in 'The Beginning of life' bringing out the important point that neuroscience and the economics of early childhood development is the newborns' primary need which is in everyone's interest and can't be left to chance. UNICEF report "The child care transition: Innocenti report card 8," has stated "neuro scientific research demonstrates that loving, stable, secure, and stimulating relationships with caregivers in the earliest years of life are critical for every aspect of a child's development.

Details About Each Component of ECD

- Health: Routine immunizations and prevention of illness are important. Prompt treatment of diarrhoeal diseases, infections like malaria tuberculosis, measles are essential in maintaining health. Along with Immunization and care during illness should be a comprehensive approach. The negative experiences in early years of life can lead to irreversible changes in brain development which can affect the quality of life and earning potential of individual. The pandemics and disasters do damage the rapidly developing brain and is very sensitive to environmental adversity [2].
- Nutrition: Adolescent nutrition with supplementation of iron folic acid to girls, nutritious meals must be included in food programs. Periconceptional folic acid supplementation, good antenatal care, multiple micronutrient supplements and appropriate IYCN practices are essential.
- Safety and security: A child's home environment as well as surroundings have to be made safe. Prevention of domestic violence and non-accidental injury are critical. Many non-accidental injuries are inflicted by parents themselves.
- Stimulation: It should begin in utero. All sensory stimuli like touch of the mother, auditory and visual impacts

produce neuronal development. Talking by parents, all care givers, playing are essential.

- Responsive care giving: This phenomenon is 'serve and return'. Parents and caregivers must respond to every stimulus that the baby gives and continue to develop its brain by this process. Responsive feeding is an integral part of it. So, a mother who feeds the baby while telling stories helps in both, nutrition and development.

Role of Various Bodies in Developing ECD Framework

Maharashtra University of health sciences along with the directorate of medical education and research and UNICEF held many workshops on ECD and introduction of ECD in undergraduate and postgraduate medical curriculum in Pediatrics, ObsGynec, and Community Medicine subjects is being initiated. Task force of Indian academy of Pediatrics (IAP) held a meeting in Sept 2019 on ECD and decided on the plan of action. The committee observed that the medical curricula lack training in nurturing care (ECD). Hence the task Force of Indian Academy of Pediatrics suggested inclusion of these topics as integrated teaching in existing medical education to promote and practice NC-ECD in community (IAP task force).

Private pediatric clinics and hospitals are point of care opportunities for ECD implementation. High risk assessment, anthropometric monitoring, treatment of illnesses, immunization, diet counseling and therapeutic ties with families are routine for them. However, busy practices frequently miss developmental surveillance and screening, anticipatory guidance including safety and tips for responsive nurturing parenting care. They can be developed to work comprehensively for ECD to improve patient care and promote research. IAP has issued guidance for ECD.

Effect of COVID 19 on ECD

Covid 19 has produced two major effects on children

- Indirect effects of Covid 19- Because of the lockdowns, job losses, supply chain disruptions, food adequacy might be compromised and children might not get good nutrition. Because of lockdown many services like routine immunization, nutrition programs, growth monitoring had decreased substantially. Health visits by AWW ASHA decreased during lockdowns thus decreasing nutrition and stimulation both. School closures have resulted in stoppage of mid-day meal schemes.
- Direct effect of Covid 19- This means those children who get Covid disease and subsequent outcomes of it. Most children may be asymptomatic but few may develop loss of appetite, diarrhea, vomiting with subsequent weight loss pushing normal children to malnutrition.
- Inadequate health care can lead to lifelong negative impact on the quality of life. Evidence shows 15% reduction in coverage of life-saving essential health interventions for 6 months in low- and middle-income countries lead to 9.8%

increase in mortality in children less than 5 years of age and 8.3% increase in maternal mortality. It has been seen that pre Covid 19 pandemic, 43% of all children less than 5 years of age globally were estimated to be at risk who could not achieve their developmental potential [3].

- Food insecurity will further damage the health and nutritional status of young children in the first 1000 days of their lives. The critical resources of immunization and supplementary nutrition services are directed away from primary care to respond to the pandemic. International Monetary Fund projections predict a global economic recession to extend beyond 2021, even if the pandemic is contained [4].
- This is going to affect not only the entire life course of the child, but also future generations through physiologic, psychological, and epigenetic changes occurring in utero [5,6].

The ongoing COVID-19 pandemic with unprecedented containment measures has hit education, businesses, community services and programmers which have impacted families, in turn children. The young children depend on their care givers for nurturing care in respect to physical, emotional, social and cognitive development. In addition, mental health of children is a silent bomb which is ticking. The children are missing social interaction and outdoor play. The effect of domestic violence in COVID times is not yet fully known but is a stark reality.

Every cloud has a silver lining and COVID-19 pandemic is no exception. Many people realized the importance of childcare which is the asset to a functioning society and economy. The families are enjoying togetherness and are experimenting new things. The climatic condition in urban area has reduced pollution with cleaner air and fewer cars. The communities have joined hands to support and care for each other. We witnessed rapid behavior change with the experiments introduced by the Governments; Doctors have realized that change is possible. The challenges due to COVID-19 made us think of integration of family support in all sectors. Therefore we should integrate early child development awareness in COVID-19 related awareness programme which can focus on parental well-being and responsive caregiving.

- How are we going to change the scenario? We need to utilize the existing platforms of health, nutrition, school feeding programmers within covid-19 response. The care giver's financial capacity and mental health is very important for not only survival but quality of life of young children who will thrive well.

Multisectorality of Involvement in ECD

An integrated concept that cuts across multiple sectors— including health and nutrition, education, social protection refers to the physical, cognitive, linguistic, and socio-emotional development of young children is required. Thus, public health, nutrition (DWCD), education, water and sanitation, social welfare are some of the departments under

the government and non-governmental organizations that have to work together for achieving optimum results in ECD.

If we want to touch upon multiple domains of children's health and development, we need to think out of the box. We should utilize transfer based social protection along with emergency food provision like ready to use food, multi micronutrient supplementation and cash transfer COVID-19 related awareness can accompany ECD awareness and supports for parental well-being and responsive caregiving. We must adapt to new normal and continue to provide health, nutrition, social protection and childcare services early years of child in respect to parenting programmers and mental health services. Multi stakeholder consultations and coordinated efforts for universal paid child care are required in post-COVID society. ECD should be the priority within the COVID-19 response to protect the young generation of children. This can minimize preventable child deaths. It will also help for economic recovery and productivity. This should include emergency food delivery like micronutrient and ready-to-use therapeutic food supplements for pregnant women and young children, counseling on health/breastfeeding/care during COVID-19, utilization of health and nutrition platforms for delivering messages parenting and early stimulation, hygiene, targeted childcare and psychosocial support for the frontline workers, supplying education material through community resource drops, exploring distance learning programs and social media. We must set up support services for women and children experiencing domestic violence, cash transfer programs and social safety nets and agriculture extension programs [7,8].

The importance of childcare should be brought to the notice of policy makers as young generation is the backbone of the economy of country. The coordinated actions and shared responsibility is the need of hour to fight against the negative impact of COVID-19 on young children. To conclude, the strategy should include multi-sectoral approaches and coordinated efforts in health, nutrition, security, protection, participation and early education. Early target should be caregivers with focus on fetus and children up to 2 years *i.e.* first 1000 days. Adolescents need supplements with Iron and Iodine along with body mass index between 18-22 and Rubella vaccine. The importance of periconceptional folic acid must be part of premarital counseling [9,10].

Conclusion

Counseling is also needed to prevent addiction to tobacco and alcohol. Antenatal care must include Iodine supplementation, multiple micronutrients, prenatal steroids, prevention of low birth weight and maternal depression. Group based parenting activity is important for promotion of infant young child feeding practices. Kangaroo mother care must centre to care of newborns for prevention of hypothermia and bonding with parents including father's role too. Early stimulation therapy

with responsive care can increase intellectual quotient of child. To conclude prevention is better than cure which can prevent disability and save lives to earn better livelihood. It is not only survival but best quality life for children.

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