

## Life Cycle Approach to Child Development

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The life cycle approach to child development is a philosophy that encompasses all actions essential for preparing for future motherhood, joyful pregnancy, safe delivery and optimal growth-development that, in turn, should lead to responsible parenthood. The Integrated Child Development Services (ICDS) project is perhaps the largest child development project in the world, trying to meet the basic developmental needs of pregnant women, children and adolescent girls. This in essence is a life cycle approach to child and adolescent development, caring for the most critical nine months of intrauterine growth, the vulnerable first six years of life and the most neglected adolescent period. This concept also has adequate policy endorsement.

As per UN Convention on Rights of the Child, 'child' means someone below the age of 18 years with; (i) Right to survival, (ii) Right to protection, (iii) Right to participation and (iv) Right to development, and these rights are enshrined in the constitution of India(1). Poverty, illiteracy and poor environmental hygiene are factors detrimental to optimal child development, especially so for the marginalized and vulnerable groups(2). National Children's Policy resolution states that in formulating programs in different sectors, priority shall be given to programs relating to:

- (a) preventive and promotive aspects of child health;
- (b) nutrition for infants and children in the pre-school age along with nutrition for nursing and expectant mothers;
- (c) maintenance, education and training of orphan and destitute children;

- (d) crèches and other facilities for the care of children of working or ailing mothers; and
- (e) care, education, training and rehabilitation of handicapped children.

Although the infant mortality in India has fallen significantly, the neonatal mortality remains by and large static. We do know that low birthweight contributes the maximum, directly or indirectly, to the high neonatal mortality(3). In the IndiaCLEN multicentric Neonatal Health Research Initiative (NHRI) study, the causes of neonatal deaths as per verbal autopsy were respiratory distress syndrome (57%), low birthweight (51%), birth injury/asphyxia (42%), neonatal sepsis complex (36%), prematurity (29%), congenital malformations (13%), hypothermia (12%), jaundice (4%), neonatal tetanus (3%), and causes not known (3%)(4). However, the status and quality of neonatal and child health remains unsatisfactory in India. The Indian Academy of Pediatrics and the National Neonatology Forum had therefore, resolved in 2004, to consolidate their ongoing partnership by looking at newer objectives and methods to improve the existing status of neonatal and child health in India(5).

Parenting practices do play an important role in child survival and development. In a recent publication on parenting practices in Kerala(6), positive attitudes were observed in key indicators of child-rearing practices among the mothers and no major difference was observed among women of various sociodemographic backgrounds. Early child-care practices were reaching high standards, even in tribal and economically backward areas(6). In those parts of the country, where maternal education is

low, one of the strategies would be providing family counselling by regularly visiting families having specially identified persons such as pregnant mothers, postnatal mothers, 0-2 month old (neonatal) babies, and 2-24 month old babies; and, observing and monitoring their parenting behavior until such desirable changes are evident(7).

Apart from perinatal causes, acute respiratory infection, diarrhea, measles, malaria and the emerging problem of HIV/AIDS are the major contributors for under-five morbidity. Yet, malnutrition is the single most important underlying cause that pushes them to death. The realization that under-five mortality can not be reduced without reducing infant mortality, which in turn can not be reduced without reducing neonatal mortality, lead to the addition of the neonatal component and thus named as the Integrated Management of Neonatal and Childhood Illness (IMNCI) in India. However, IMNCI requires three interdependent components for success; (i) to improve the case management skills of health workers; (ii) to provide essential drug supplies required for effective case management; and (iii) to optimise care-seeking behavior(8). Universal free immunization for all children has been the key policy initiative of the Government of India for child survival and protection. Despite huge success, the fact remains that majority (74%) of the immunization associated injections are unsafe in India and, 46.1% injections for fever/cough and diarrhea are used with no obvious indication for injections(9). It is in this context that the Government of India has introduced auto-disabled syringes for immunization purposes.

Growth monitoring has been the mainstay of child development activities in the ICDS program, but recently serious concerns have been raised regarding the utility and cost effectiveness of this strategy. The Indian Academy of Pediatrics has made recommendations for use of growth charts based on longitudinal Indian data(10). At the same time, both the Ministry of Women and Child Development, and Ministry of Health and Family Welfare, Government of India are in the process of having a single uniform National growth chart based on the WHO Child Growth Standards, for community level workers of both departments(11).

The advantage of the new WHO growth standards is that normal early childhood growth under optimal environmental conditions is depicted and can be used to assess children everywhere, regardless of ethnicity, socioeconomic status and type of feeding. As expected, there are notable differences with the NCHS/WHO reference that are particularly important in infancy. Stunting will be greater throughout childhood when assessed using the new WHO standards. The growth pattern of breastfed infants will result in a substantial increase in rates of underweight during the first half of infancy and a decrease thereafter. For wasting, the main difference is during infancy when wasting rates will be substantially higher. It will also result in a greater prevalence of overweight that will vary by age, sex and nutritional status of the index population(11). The introduction of the WHO Child growth standards offers a golden opportunity to revisit, revamp and revitalize not only growth monitoring, but also the whole early childhood care and education scene in India.

The National Rural Health Mission (NRHM) launched by the Government of India, aims to achieve the goal of the National Population Policy and the National Health Policy through improved access to affordable, accountable and reliable primary health services such as women's health, child health, water, sanitation and hygiene, immunization, and nutrition. The Mission aims to achieve the same by undertaking architectural correction of the health system to enable it to effectively handle the increased allocation for public health. It also aims to bridge gaps in rural healthcare through increased community ownership, decentralization of the programs to the district level, inter-sectoral convergence and improved primary health care(12). The Persons With Disabilities Act (1995) in India has been a major milestone in the history of development of services for the disabled. The section on "prevention and early detection of disabilities" stipulates that all government and local authorities within the limits of their economic capacity must undertake various actions to prevent the occurrence of disabilities(13). NRHM has adequate provisions for reducing mortality, morbidity and disability in districts with poor

indicators and this should be optimally utilized by all district branches of Indian Academy of Pediatrics. At least for those districts with better indicators, a clear strategy needs to be adopted, not only to reduce disability, but also to proactively promote development of children as well as adolescent future parents. Only a life cycle approach can bring in dividends.

#### LIFE CYCLE APPROACH WITH COMMUNITY PARTICIPATION

- *Care of the Pregnant Woman:* It is now clear that improving not only the prenatal, natal postnatal care of pregnant women and the concept of joyful pregnancy, but also the overall reproductive health of women is important for a healthy progeny. The priority would be community action plan for “prevention of mother to child transmission of HIV/AIDS” in collaboration with the Reproductive and Child Health (RCH) Program under Health Services Department.
- *Care of Low Birth Weight (LBW) babies (<2500 g):* The early stimulation program for the low birthweight babies, initiated and operationalised by the Child Development Centre (CDC), which is a feasible and cost effective community strategy, has shown that it is possible to reduce poor intellectual performance by 40%(14). A feasible strategy would be community action plan for the provision of CDC model early stimulation program for low birth weight babies in collaboration with the ICDS Project under Ministry of Women and Child Department(15).
- *Caring for 0-3 year age group:* The lack of a comprehensive program for the age group 0-3 is being increasingly realized. Community Extension Service program of CDC has shown that it is feasible to organize intervention programs for the observed 2 to 3% developmental delay among under 3 year olds(15). The need of the hour is to include the 0-3 age group under the umbrella of ICDS projects under Ministry of Women and Child Department.
- *Caring for 3-6 year age group:* ICDS anganwadis are probably the only preschool service easily accessible to majority of 3-6 old

children below poverty line. The observed poor skill development of anganwadi children as against private nursery school children could be attributed to poor stimulating environment including play materials. In the context of the current thinking to convert some of the anganwadis as pre-schools, there is urgency to invest in improving the pre-school environment of anganwadis(16).

- *Caring for 6-10 year age group:* The focus of any primary education program including District Primary Education Project (DPEP) has been on teacher training and improving physical facility of primary schools. The observed 10% poor performance of primary school children could be attributed to lower IQ of children and poor stimulating home environment(17). Sarva Siksha Abhiyan program under the Education Department offers the best opportunity to identify and integrate children with mental subnormality to the mainstream teaching.
- *Caring for 10-18 year age group:* Scholastic performance offers an easy entry to adolescent issues ranging from nutrition to sexuality. Scholastic backwardness observed among 10 to 20% high school children could be attributed to poor study habits and negative home environment including alcoholism of father(18). For too long we have been teaching subject after subject without focusing on how to learn. The Parent-Teacher Associations and the Education Department need to take note of this aspect also.

Apart from the above medical model, measures are needed that enable children to have a voice and keep their future open, and that enable their families/institutions caring for them to ensure their full development into balanced and productive individuals. Thus, a broader vision of ‘child welfare’ than usual would be required, defining it as encompassing not merely the physical and material well being of the child but also her psychological and social wellness. ‘Child welfare’ would also involve not just the strengthening of parenting capacities of adults within families but also the energizing of social networks so that children are cared for not just by their parents but also enjoy the added security of

the proximity of loving adults. This vision of 'child welfare', therefore, calls for the multiplication of secure spaces for the child, the interventions targeting not just children, but also adults, with an eye to create an enabling environment for children. Thus, rejuvenating and imparting parenting skills to couples forms a major longterm goal along with provision of material, educational and health support, or facilities for psychological care.

In the Indian context, it appears that reduction of low birthweight should be the center point of our thoughts and actions, whether it is for reduction of mortality, morbidity, childhood disability and poor scholastic performance or for reduction of childhood onset adult diseases like hypertension, dyslipidemia, type II diabetes and coronary vascular diseases. The fetal origin hypothesis proposes that chronic diseases originate through adaptations that the fetus makes when it is undernourished and that adult disease is programmed *in utero*. Low birthweight has been said to program individuals to be at higher risk of adult disease. However, this 'programming' only comes into action when lifestyle is changed from one of deprivation to one of excess and also due to poor health habits (e.g. smoking and low levels of physical activity). This has major implications because as whole communities and countries in the developing world experience greater economic and social development there is likely to be a correspondingly massive increase in populations suffering from adult diseases(19).

It is to be appreciated that low birthweight has an intergenerational effect and interventions in one generation alone cannot address the issue fully. Yet in order to reduce the burden of low birthweight with the resultant consequences, it is important to understand the community attributable risk factors for low birthweight. In a large community study at Pune, India, a 29% LBW incidence was reported and this study had described the following population attributable risks for LBW: socioeconomic status (41.4%), severe anemia in pregnancy (34.5%), maternal height (29.5%) and maternal pre-pregnant weight (22.9%), highlighting the importance of improving pre-adolescent and adolescent girls' nutrition(20). The strategy to achieve this would be the provision for nutritional monitoring of

adolescent girls using CDC-IAP Adolescent Health Card (10 – 19 years) through ICDS network, health services and education departments(21).

National Population Policy 2000 acknowledged that at present there are no specific programs for health, nutrition or development aspects related with adolescents and hence new activities were undertaken in the 10th plan, with some success. But considering the enormity of the problem, only synergy of action in the 11th plan between professional bodies and Departments of Health, Women and Child Development, Education and Youth Affairs, with a central coordinating role played by the Ministry of Health and Family Welfare, would bring in a change. But this then necessitates that our health infrastructure and health management be made responsive and responsible.

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