

Health, Nutrition and Care as Key Components for Early Childhood Development

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Abstract

There are many elements that affect a child's start in life. But the preconditions for achieving these elements are likely to go well beyond the immediate circumstances of children themselves, to include the wider social, economic and cultural environment. For instance, nutrition depends heavily on the health of mothers and the knowledge and support they get in feeding infants. These factors in turn depend not only on food availability and prices in the economy as a whole, but also on how resources are distributed within households, gender attitudes and the availability of health services. Good health depends on a hygienic, safe environment including access to clean water and sanitation. But much rural and urban living in India are characterized by crowding, lack of clean water, poor sanitation, high levels of rubbish, exposure to dirt and in some cases environment toxins. The quality of child care depends on how much time parents have for each child, which in turn depends on diverse factors ranging from the structure of the rural and urban economy to birth spacing. There are wide ranges of things that need to happen to improve early childhood development.

Keywords: Nutrition, health, care, infancy, environment

Child development is the process of change in which a child comes to master more and more complex levels of physical activity, thinking, feeling, communicating and interactions with people and objects. This is sometimes expressed as physical, cognitive, emotional and social development. Early Childhood Development (ECD) refers to the biological and psychological changes that occur in children between conception and the age of six years. Early childhood is the most rapid period of development in a human life. Children develop at different rates, but they all progress through an identifiable sequence of change and growth in different domains including- physical growth, motor development, cognitive development, language development and socio-emotional development (Gracia, et al, 2008). More than 80% of brain growth occurs in this period and it influences every aspect of a child's future life. As we know that children are the first call on agenda of

development- not only because young children are the most vulnerable, but because of the foundation for life long learning and human development is laid in the crucial early years. In the right conditions, children develop normally, laying the foundation for a good life. In their absence, they effectively suffer from various kind of damages. The consequences are wide-ranging and include a lower I.Q., greater susceptibility to illness, lower educational attainment, lower productivity and lower earnings. The right conditions include a range of things that lead to appropriate nutrition, good health and care- from breast feeding to access to health services to parental involvement. There are 445 million children in India, 158 million of them are in early childhood years- under six (UNICEF, 2008). It is now globally acknowledged that investment in human resource development is a pre-requisite for economic development of any nation.

Factors Associated with Early Childhood Development

Childhood development is the product of a hugely complex array of overlapping factors that fall into three broad areas: nutrition, health and care. There is convincing evidence that underdevelopment is part of the mechanism by which poverty and deprivations are transmitted between generations (UNICEF, 2008). In particular, babies and infants whose development is retarded tend to become adults who produce underdeveloped children (Black *et al.*, 2008). Low birth weight is an excellent predictor of the health status of future children. Undernourished women have small babies, with a higher prevalence of complications in child birth, lower quality breast milk and a higher risk of infant and maternal mortality. But it is also because underdevelopment is part of a vicious cycle of poor skills and poor care. Stunted girls grow up to become stunted mothers, with low I.Qs. and poor levels of education (UNICEF, 2008). According to Save the Children, India (2009), low skills and low status are directly associated with early marriages, multiple-closely spaced births and low use of primary health services. All of this increases stresses on parenting and makes it less likely that children will get appropriate care.

In India, nearly half of under three children (45%) are stunted. This is a measure of chronic malnutrition-it means that children have not had the right nutrition for long periods of time. More than a fifth (23%) of under three are wasted. This is a measure of acute malnutrition- it means that children have not had the right nutrition recently, or have been ill (IFPRI, 2008). Around one in ten Indian children suffers from diarrhea. Almost one in six suffers from fever. Half of under-threes are deprived of full immunization, with children often beginning but rarely completing vaccination courses. India is home to a shocking 40% of the world's malnourished children, and 35% of the developing world's low- birth weight infants. Every year, 2.1 million children under five die in India, accounting for almost one in five deaths in the world. More than half of these deaths could be prevented if children were well nourished (IFPRI, 2008).

The comparative picture shows that the problems facing Indian children are part of a bigger South Asian trend. Nonetheless, whether it is measured as the prevalence of underweight, stunting or wasting, it is clear that the nutritional situation in India is among the worst in the world (Gragnotati *et al.*, 2005). Prevalence rates in India are comparable to those in much poorer countries, such as Bangladesh and Nepal, and are nearly twice as bad as Africa and eight times as bad as Latin America and the Caribbean. The Global Hunger Index measures three criteria with equal weight: the proportion of undernourished as a percentage of the population; the prevalence of underweight children under the age of five; and the mortality rate of children under the age of five. According to the index, India is worse than two dozen sub-Saharan African nations and other neighboring nations such as Pakistan (Von *et al.*, 2008). Data suggests that there are marked differences between Indian states. Madhya Pradesh records the highest rate of malnutrition in under fives (60%) with Kerala among the lowest (23%) (Ministry of Health and Family Welfare, 2005-06). Bihar, Madhya Pradesh, Uttar Pradesh and Rajasthan between them account for more than 43% of all underweight children in India (Save the Children, India, 2009). Jharkhand and Orissa are also vulnerable. Tamil Nadu by contrast is widely recognized for having made great strides on child development (Ministry of Health and Family Welfare, 2005-06). But in terms of outcomes for children, there is little encouragement to be had from trends over time. Though there have been improvements in levels of extreme hunger and malnutrition, progress in other areas is weak or non-existent. In particular, between 1998/1999 and 2005/2006, the last two National Family Health Survey in India (the main source of data on children's health and development) show that the proportion of undernourished children barely changed. There has been some progress in tackling stunting, with a fall from 51% to 45%. But there has been a worsening in full vaccination coverage, and anemia, a chronic problem in India, has increased by five percentage points (Ministry of Health and Family Welfare, 2005-06). The drivers of inadequate nutrition, health and care are therefore the ultimate determinants of underdevelopment.

Nutrition

Good nutrition, in turn, is the cornerstone of survival, health and development—not only for current but also future generations. Well nourished woman face fewer risks during pregnancy and labor, and their children develop much better physically and mentally. Child development proceeds normally where there is enough protein and energy, and where there are adequate supplies of micronutrients for growth and development. In India, poor feeding practices, low dietary intakes and failure to prevent or adequately treat communicable diseases cause widespread undernutrition (IFPRI, 2008). More than one in five babies in India (22%) is born with low birth weight, putting them at risk of undernutrition and illness even before birth. This reflects poor attention to maternal health and nutrition before and during pregnancy. Also, 36% of Indian women are too thin for their height,

and 55% are anaemic (Ministry of Health and Family Welfare, 2005-06). The initial determinant of nutritional status after birth is breastfeeding. Breastfeeding should be the central component of infant nutrition, as it normally provides all the nutrients and calories babies need. But breastfeeding needs to begin immediately on birth, be exclusive of other foodstuffs for the first six months, and be frequent enough to meet babies' appetites (Gupta, 2006 & Greiner, 2004). According to the Citizens' Initiative for the Rights of Children Under Six (2006), late initiation of breastfeeding leads to alternatives like glucose water, honey, ghutti or powdered milk being used, many of which can increase the chances of infections and diarrhoea and all of which exclude the benefits to babies of the antibodies contained in breast milk. In India, most mothers with young children breastfeed. But three-quarters of children are not breastfed within an hour of birth. More than half of mums feed their children foods other than breast milk in the first three days of life. By around five months, only 28% are exclusively breastfed (NFHS-3, 2005-06). Problems with breastfeeding are compounded by inadequate weaning. After six months, infants need to be moved on to semi-solid foods. To get enough calories and nutrition, it is a question of making sure children eat frequently and that diet is balanced, including the right micronutrients (Gupta, 2006). Yet 45% of children in India are weaned on fluids. Only 42% of children aged six to 23 months are fed the minimum number of times recommended, and only 35% consume the recommended minimum of three food groups (Ministry of Health and Family Welfare, 2005-06). The weaning period, at 18 to 24 months, is one of critical risk for Indian children, reflected in stunting and wasting levels peaking. Of children this age, 58% are stunted, 30% are severely stunted and one fifth are severely underweight. A final component of under nutrition is lack of micronutrients. This is caused by inadequate diet diversity, food fortification and direct supplementation. Amongst others, Vitamin A, iodine and iron are central to physical development. But the Indian population suffers wide spread anaemia, with 70% of children aged between six and 59 months anaemic, probably because of dietary composition (Bobonis et al, 2004). Anaemia levels are also extremely high among adolescent girls and pregnant women. A further problem is lack of iodine. Inadequate levels are directly linked to retardation, but 200 million people in India risk deficiency—fewer than half of households use iodised salt (Ministry of Health and Family Welfare, 2005-06). The situation is similar with Vitamin A, essential to eye health and the functioning of the immune system.

Health

Health relates closely to nutrition, with young children vulnerable to diarrhoea, intestinal worms and pneumonia as well as infectious diseases like measles, malaria and TB. These obviously have a direct impact on children's well-being, but they also affect well-being indirectly through damaging children's ability to absorb nutrients. (Walker *et al.*, 2007). Around a tenth of children in India suffer from diarrhoea, and almost a sixth suffers from fever. More than half of under-threes

are deprived of full immunisation, with children often beginning but infrequently completing vaccination courses. Underpinning this is lack of prevention - particularly adequate sanitation. Only half of the urban population and 18% of the rural population have access to adequate sanitation ('improved toilets'). Only in 21% of households are children's stools disposed of safely (Ministry of Health and Family Welfare, 2005-06). Good health also requires carers not to do the wrong things. A range of harmful cultural practices are prevalent in India, including denying newborns the first milk (anti-body rich 'colostrum'), keeping babies too cool and, in some areas- not feeding children during illness (IFPRI, 2008). More than a quarter of children with diarrhoea get no treatment; 41% have their fluid intake cut and 45% have food levels cut. Lack of timely and sensible management of childhood illness is at the heart of under development (Ministry of Health and Family Welfare, 2005-06).

Care

According to the Citizens' Initiative for the Rights of Children under Six, (2006), the final key component that supports childhood development is care, understood here in the broad sense of social and emotional care, including stimulation, affection, security and love. For babies and young children, this includes engaging with them through look, touch and speech, and responding to them positively. For older infants, it means quality pre-school education and day care. For all children, care requires positives such as parental involvement, spending time together and being listened to, as well as avoiding negatives such as exposure to stress and violence (Walker *et al.*, 2007). The hormone cortisol is produced under stress and is thought to have toxic effects on the developing infant's brain, particularly the limbic system that governs emotions. This can result in hyperactivity, anxiety and impulsive behaviour. The picture on stimulation and care is the area of childhood development where analysts have the least data. But we know that the circumstances of many children and families are such that good care is unlikely. High proportions of parents work full time from soon after birth, and young siblings often end up looking after children. Maternity entitlements are generally only available to women working in the formal sector, comprising just 7% of the female workforce. Crèche and pre-school provision is limited in terms of both access and quality. For instance, the FORCES network in Delhi estimates that there are 23,000 crèches available under existing schemes, compared with potential demand of 800,000 (Bajaj, 2007). One element unifying many of these factors is the fact that they are embedded in lack of knowledge, low expectations and cultural practices.

Implications and Recommendations

There are many elements that affect a child's start in life. But the preconditions for achieving these elements are likely to go well beyond the immediate circumstances of children themselves, to include the wider social, economic and

cultural environment. For instance, nutrition depends heavily on the health of mothers and the knowledge and support they get in feeding infants. These factors in turn depend not only on food availability and prices in the economy as a whole, but also on how resources are distributed within households, gender attitudes and the availability of health services. Good health depends on a hygienic, safe environment including access to clean water and sanitation. But much rural and urban living in India are characterized by crowding, lack of clean water, poor sanitation, high levels of rubbish, exposure to dirt and in some cases environment toxins. The quality of child care depends on how much time parents have for each child, which in turn depends on diverse factors ranging from the structure of the rural and urban economy to birth spacing. There are wide ranges of things that need to happen to improve early childhood development. These include:

- Better health and nutrition for mothers- before, during and after birth;
- Improved breastfeeding and feeding practices- including during weaning;
- Better access to micronutrient for key groups and the population as a whole;
- Prevention of disease;
- Treatment of disease through better recognition, management and referral;
- Better, time rich, high quality child care;
- Better planning of families, including better spaced children and not having children too young
- More educated, empowered women and men, and;
- Secure affordable food.

Following are the recommended measures that should be taken by government and public sectors for the improved health, nutrition and child care during early childhood years-

Health

(a) Community Health Education

Simple antenatal care-including clean handling of new babies at birth and for the first month, early recognition of low birth weight, and management of sepsis and asphyxia can reduce newborn mortality by 10-30% (CARE India, 2009).

(b) Vaccination

Vaccination is a well-established means of preventing disease. But parents find it hard to complete vaccination courses for their children. Recent analysis has also highlighted the importance of simple operational details, such as failure to list and track children, to remind families in a timely manner and to ensure supervision of tasks. There needs to be a focus on “left outs” and “drop-outs”. (CARE India, 2009).

(c) Treatment of Disease

Training mothers and community workers in simple protocols for the monitoring, recognition and management of malnutrition and disease can be effective. The World Health Organization and UNICEF have developed the “Integrated Management of Childhood Illness” programme to improve the performance of health and childcare workers treating under-fives (it is also meant to include work on feeding practices). This seems to work well where initial training (typically lasting a few days) is followed up and repeated, and where efforts are made to ensure that communities know the service is available. Otherwise, poor implementation and lack of demand can undermine the approach (Chaudhary *et al.*, 2005).

(d) Improved Access to Water and Sanitation

Toilets and pumps can be built fairly easily. The challenge here is not just about making physical infrastructure available but rather the “softer” issues-especially persuading people to use toilets and to wash their hands.

Nutrition

(a) Breastfeeding Counselling

Modestly trained workers or volunteers can help new mothers to breastfeed. They can help them to improve early initiation, colostrums feeding and exclusivity. Educating mothers during pregnancy, training health providers and providing access to outpatient feeding support also have a reasonable evidence base (Green, 1999).

(b) Nutrition Education

There is a coherent argument that educating mothers on nutrition improves their feeding practices. The NGO, Children in Need Institute (CINI) reduces low birth weight by one third in West Bengal through a combination of getting community health workers to counsel mothers and families (especially husbands and mother-in-law) and working through panchayats (Village Councils) and women’s groups. General principles of effective programmes include sensitivity to local contexts (for example, understanding cultural beliefs), using multiple channels (from local workers to folk media) and a comprehensive approach (practical support, not just information; and making sure health services are available (Kalita, 2006).

(c) Micronutrient Supplementation

Iron, iodine, zinc and vitamin A are all important micronutrients that can be targeted to infants, adolescent girls and expectant mothers- there is a good evidence base for taking some specific supplements at particular times. World Health Organization guidelines recommend, amongst other things, iron and folic acid during pregnancy.

(d) Mass Fortification of Common Foods

There is good evidence that mass fortification of foods can dramatically improve undernutrition that is caused by a lack of micronutrients- for example, in relation to iodine in salt (Rosenberg, 2007). It is a highly effective approach as it is more cost effective than other interventions used to tackle vitamin and mineral deficiencies.

(e) Food Supplementation

Extra food in the form of pre-packaged food or hot cooked meals, can be used to improve energy and micronutrient intake for at risk groups.

Care

According to Citizens' Initiative for the Rights of Children Under Six (2006), high-quality crèches can improve child development; and they have additional benefits such as safety, freeing female siblings from caring responsibilities (thus improving school attendance) and improving parental ability to earn an income . Promotion of better reproductive health behaviours, as well as social marketing of contraceptives and efforts to educate unqualified local health providers, had a positive impact on efforts to birth space.

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