

Effective interventions and strategies for improving early child development

Investing in early child development is a smart and essential strategy for building human capital, reducing inequities, and promoting sustainable development, argue

Bernadette Daelmans and colleagues

The millennium development goal on child health has led to great improvements in child survival worldwide. Child mortality has fallen by almost 50%, resulting in an estimated 17 000 fewer children dying every day in 2013 than in 1990.¹ Nevertheless, many children who survive do not thrive, with over 200 million children under 5 years of age at risk of not attaining their developmental potential.² Physical and mental health, educational and occupational attainment, family wellbeing, and the capacity for mutually rewarding social relationships all have their roots in early childhood. We now have a good understanding of the serious implications of young children going off course, including the longer term economic and societal ramifications. Here, we synthesise evidence about effective interventions and strategies to improve early child development, and call for it to be included in a new global strategy on women's, children's, and adolescents' health.

Methods

Our analysis draws on the following evidence: WHO records on early child development, beginning with the Commission on Maternal Care and Mental Health led by John

Bowlby in 1951³; four special scientific journal issues on early child development and on efficacy and effectiveness of interventions and programmes²⁻⁶; the conclusions of the Commission on Social Determinants of Health⁷; the WHO expert meeting held in January 2013 to review evidence on the role of the health sector in improving early child development⁸; and empirical neuroscience research linking early experiences with health and diseases across the lifespan.

Why early development is important

Child development refers to the expansion of physical, cognitive, psychological, and socioemotional skills that lead to increased competence, autonomy, and independence. What children experience during the early years (prenatal to the age of 5 years) creates a trajectory across the lifespan. Adverse exposures and experiences in early childhood increase the risk of poor social, cognitive, and health outcomes, including economic dependency, violence, crime, substance misuse, and adult onset of non-communicable diseases. Early deficits are compounded and become increasingly difficult to reverse beyond early childhood.⁹

Genes and experiences interact to shape brain architecture and functioning, which develops rapidly in the first few years of life when neuroplasticity is greatest. Neural connections formed early in life lay the foundations for physical and mental health, affecting adaptability, learning capacity, longevity, and resilience.¹⁰ Supporting children's development is therefore imperative, especially for the millions of children who live in disadvantaged and vulnerable families and communities and who face multiple adversities.

The figure summarises the risk factors for suboptimal development. They include biological and contextual factors.¹¹ Gender disparities, for example, are a critical component of the sustainable development framework and start prenatally, with boys being more sensitive to neurological threats¹² while girls are more at risk from selective abortion.¹³ To prevent and mitigate risks, integrated responses are required that improve children's physical, familial, and societal environments.

Priorities for intervention

Interventions to protect and support early child development start before conception and continue through pregnancy and childbirth into early childhood (box).¹⁴ Protecting children from illness and ensuring adequate nutrition are essential but not sufficient. Children need to grow in a caring, safe, and stimulating environment that provides opportunities for ongoing learning and mastery. We highlight three areas of intervention that can be integrated into ongoing programmes for maternal and child healthcare and nutrition: promotion of responsive and nurturing caregiving, supporting maternal mental health, and social protection through poverty reduction strategies that strengthen family capacity to provide for children.

The benefits of these interventions include better mental and physical health and academic performance during childhood and adolescence, and increased economic productivity and social integration during adulthood.¹⁵⁻¹⁶ The rate of return on investment in programmes that promote early childhood for disadvantaged children is estimated to be 7-10%.¹⁷

Promoting responsive and nurturing care

Children thrive in stable and engaged family environments in which parents show interest and encourage children's development and learning. WHO and Unicef developed Care for Child Development (CCD), an evidence based intervention to support care giving.¹⁸ By promoting age appropriate play and communication, CCD enables carers to strengthen their sensitivity and responsiveness to their child's needs. Responsive care giving in turn has an effect on care practices, including responsive feeding, seeking care for illness, child stimulation, and opportunities for learning, and it also benefits parental mental health.¹⁹ CCD has been shown to improve children's cognitive, social, and language scores.²⁰ Landmark programmes, such as the Jamaican home stimulation programme, have shown the immediate and long term effects of the intervention when delivered as part of health and nutrition services.²¹

KEY MESSAGES

Adverse exposures and experiences in early childhood increase risks for poor social, cognitive, and health outcomes

Despite great strides in improving child survival over 200 million children under 5 are at risk of not reaching their full potential

Interventions implemented through health, nutrition, education, and social protection sectors are effective at improving early child development

Such interventions have long term health, economic, and social benefits

Interventions to promote nurturing care, protect maternal mental health, and reduce poverty should be prioritised to complement and enhance services for maternal and child health and nutrition

ESSENTIAL INTERVENTIONS TO SUPPORT EARLY CHILD DEVELOPMENT

Preconception care

- Promotion of adequate maternal nutrition
- Maternal immunisation
- Birth spacing
- Cessation of smoking and substance misuse
- Detection of genetic conditions
- Prevention from environmental toxins
- Prevention of intimate partner violence
- Support for mental health

Maternal health

- Antenatal, childbirth, and postnatal care by a skilled provider
- Detection and care for maternal mental health problems

Child health

- Immunisation
- Prevention and integrated management of newborn conditions
- Prevention and integrated management of childhood illnesses
- Counselling on Care for Child Development

Nutrition

- Counselling on infant and young child feeding, management of feeding difficulties, and inadequate growth
- Counselling on Care for Child Development

Adolescent health

- Promoting health literacy and support for healthy lifestyles
- Addressing adolescent health needs and agency for decision making to promote health and development

Violence prevention

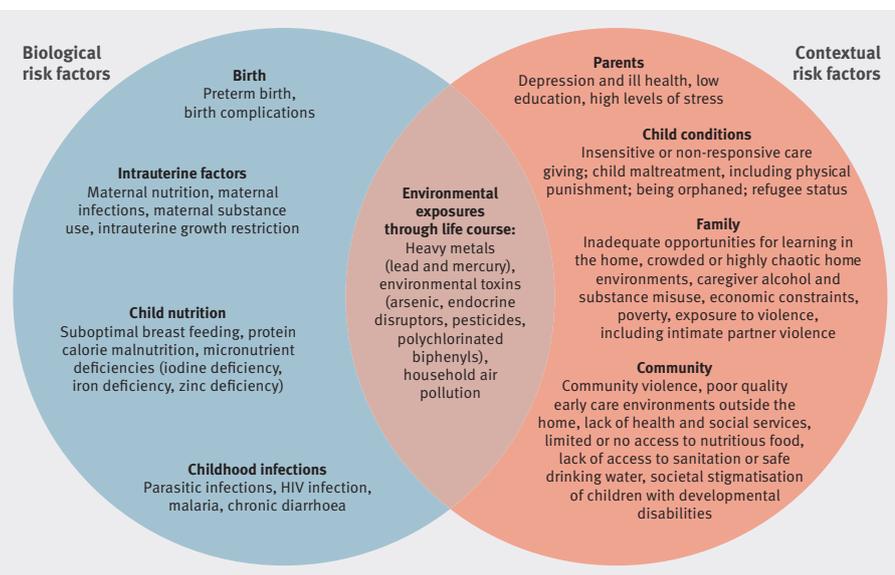
- Prevention of child maltreatment
- Prevention of violence in the home and community

Environmental health

- Access to safe water, sanitation, and hygiene
- Access to electricity
- Safe places for play
- Prevention of exposure to toxins such as lead, mercury, and pesticides
- Prevention of indoor and outdoor air pollution

Social protection

- Social help and cash transfer schemes
- Birth registration
- Parental leave and child care
- Child protection services



Factors compromising early child development

CCD can be integrated into services for well and sick children, preschool programmes, and services to prevent and manage maltreatment.^{22 23} Work is in progress to develop complementary tools that enable providers to recognise when children show a developmental delay or disability and to act appropriately, with intensified intervention or referral.²⁴ This addition is expected to improve the capacity of countries to care for children with disabilities and implement rehabilitative strategies.²⁵

Supporting maternal mental health

Starting with Bowlby's seminal work on attachment and loss,³ evidence has accumulated about the adverse effects of maternal depressive symptoms on early child development and quality of parenting. Between a third and a fifth of pregnant women and mothers of newborns experience serious mental health problems that can be recognised through use of simple reliable tools.²⁶ Poor maternal mental health nonetheless remains a seriously under-recognised public health problem. Young children can be protected against ill effects if mothers are helped to improve their caregiving skills and treated for their underlying conditions, as needed.²⁷ These interventions can be integrated into health services and implemented by paraprofessionals through home visiting, mothers' groups, or by community health workers with specialised training.

Family support through social protection to reduce poverty

Poverty remains a pervasive determinant of suboptimal health and development. Children growing up in poverty have an increased likelihood of being exposed to environmental risks, household stresses, and violence; they also receive less optimal healthcare, nutrition, and education. Evidence from countries that have implemented large scale early child development programmes shows the importance of coordinated actions providing social protection (such as financial support); building parents' capacities (vocational training, parenting skills, etc), and using multiple platforms to reach families and children with effective interventions for health, nutrition, child care, and learning.²⁸

Conditional cash transfer (CCT) programmes, implemented particularly in Latin America, and unconditional cash transfer programmes in sub-Saharan Africa have been shown to benefit nutrition and child development, helping to break the intergenerational effects of poverty.^{29 30} By increasing household resources and access to early child care and preprimary education, such

programmes can substantially boost children's learning and development.

Moving forward

Implementation of interventions to optimise child development need guidance and political will to promote coordinated governance, increased funding and capacity, and improved data collection to inform programme improvements and show that they work.

Coordinated governance—Leadership across sectors is needed at national, subnational, and local levels to implement coordinated interventions for young children and families. Coordinated governance must bring together health, nutrition, environment, education, and child and social protection, as well as the public and private sectors and civil society.³¹

Financing—Early childhood programmes and systems of support have been seriously underfunded. The establishment of coordinated early childhood plans should be a call to action to bilateral and multilateral agencies, national governments, and the private sector to dedicate increased funding through traditional and innovative financial instruments.³² Investment is also needed across multiple sectors to strengthen the capacity of the workforce, assure quality of services, and provide administrative oversight and accountability. Using multiple delivery platforms, such as community health workers, primary healthcare services, preschool education, and parent groups, is necessary to ensure success.

Improved measurement, research, and innovation—UN agencies are working together to develop and align new measures to track child development and monitor the quality of services and to use the results of evaluation to consolidate, extend, and improve programmes. New investments, methodological advancements, and political will are needed to validate these emerging measures, integrate them into existing data collection efforts, and help build management information systems that will generate data to guide policy. Although measurement has been a challenging issue in advancing early child development, there is now a selection of tools for assessing preschool children, including the Inter-American Development Bank's Regional Project on Child Development Indicators (PRIDI), the Early Development Instrument (EDI), and Save the Children's International Development and Early Learning Assessment (IDELA); scales are also emerging for children under 2 years old.³³

Scientific, technological, social, and business innovation can ensure that the largest numbers of children are reached and that

every child has support to reach their developmental potential. Innovations that promote healthy development in the first five years are showing the long term effect of early life interventions on physical, cognitive, and socioemotional development. They include mobile and internet based technologies to transfer information, financial assistance, and provision of home-based counselling and support by community workers.³⁴

Conclusions

The new sustainable development goals adopted by the United Nations launch an exciting period in the global effort to end poverty, transform the world to better meet human needs, and protect the environment to ensure peace and realise human rights. As the recent secretary general report emphasises, "Millions of people, particularly women and children, have been left behind in the unfinished work of the MDGs [millennium development goals]."³⁵ The new agenda can transform the way health and human services are delivered and create the conditions globally so children can have equitable opportunities to meet their developmental potential and grow into healthy and socially integrated citizens. This historic moment calls for a bold commitment to support healthy child development as the foundation for sustainable societies.

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