The Impact of Early Childhood Psychosocial Stimulation on Child Development Outcomes in Odisha, India

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Sector(s): Education, Gender, Health

Location: Cuttack, Odisha, India

Sample: 54 peri-urban slums

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Research Papers: Effects of a scalable home visiting intervention on child development in slums ...

Partner organization(s): Pratham

Evidence suggests that early childhood stimulation can strengthen children's emotional and intellectual development. Yet there is little research on how to successfully scale up early childhood development programs while maintaining impact and cost-effectiveness. In response to this gap, researchers evaluated the impact of an early childhood psychosocial stimulation program on child development outcomes in urban Odisha, India. They found that a home-visiting stimulation program led to greater development outcomes, particularly for boys, stunted children, and children with more educated mothers.

Policy issue

Early childhood is a critical time for cognitive, social, emotional, and physical development. Previous research has shown that encouraging parents to play more with their children can improve long-term outcomes in cognition, education, and labor market earnings. Yet across low- and middle-income countries around the world, approximately 250 million children under the age of five are at risk of not reaching their development potential due to poor nutrition and lack of psychosocial stimulation. Furthermore, attempts to successfully scale up early childhood development programs and maintain impact have proven challenging. To address this evidence gap, researchers evaluated the impact of a scalable, early childhood psychosocial stimulation program delivered through local community members in Odisha, India.

Context of the evaluation

Rapid urbanization in developing country contexts has resulted in almost half of the world's children living in urban areas. In India specifically, roughly one third of the country's urban dwellers are children, with a majority living in informal settlements. Oftentimes, children growing up in such communities have health and educational outcomes that are the same as or worse than children from rural backgrounds, largely due to overcrowded indoor spaces and unsafe outdoor spaces, both unconducive for stimulating play from an early age. With roughly 121 million children living in urban areas, India has the greatest number of children at risk of poor development.



Mother teaching a block game to a young child.

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Details of the intervention

From 2013 to 2015, researchers partnered with Pratham to evaluate the impact of an early childhood psychosocial stimulation program on children's social and cognitive development in Cuttack, Odisha. The program was intended to be a first step towards developing an effective and scalable early childhood program to complement the 1.4 million Anganwadi centers, or informal preschools, across India.

As part of this evaluation, researchers focused on children ages 10-20 months old across 54 peri-urban informal settlements surrounding Cuttack. These children could later graduate into existing Anganwadi centers. Half of the children were randomly assigned to receive the psychosocial stimulation program, while the other half did not receive the program and formed the comparison group.

The early childhood psychosocial stimulation program involved home visits to educate children's primary caregivers, generally their mothers, on how to interactively play with their children. As part of the program, three Pratham employees were trained in early child development, psychosocial stimulation program curriculum, and methods for supervising and supporting home visitor program staff. Pratham mentors then recruited, hired, and trained local women who had completed secondary school to serve as home visitors. The curriculum was adapted from the Reach Up and Learn curriculum used in a previous program in Jamaica. The structured guidelines included stimulating activities using low-cost, homemade toys and picture books.

During the 18-month intervention, home visitors demonstrated play activities with children and coached mothers on practicing the activities themselves. The visits were weekly one-hour sessions. The overall goal of home visits was to increase and

strengthen mother-child interactions and the mother's ability to further her child's development through interactive play. Mentors continued to supervise and support home visitors throughout the intervention, hosting intermittent refresher trainings, observing home visits, and debriefing with home visitors every week.

To evaluate the program, researchers collected data on cognitive outcomes, the quality of the home environment, maternal knowledge of child development, and maternal depressive symptoms.

Results and policy lessons

The early childhood psychosocial stimulation program increased interactive home-based play, improved children's cognitive development, and decreased mothers' depressive symptoms.

Home visit implementation: The home visit program's take-up was high, with 93 percent of children receiving at least one visit over the 18-month period. On average, children received roughly three visits per month (87 percent of home visits scheduled). Planned visits which did not occur were due to the home visitor being unavailable (22 percent of the time) or the child or mother being unavailable (68 percent of the time), both generally due to sickness or visiting relatives.

Impact on children's cognitive development: Children's cognition increased by 0.35 standard deviations relative to the comparison group, while their receptive language and expressive language skills slightly improved by 0.22 standard deviations and 0.19 standard deviations respectively. However, the intervention had no significant impact on children's fine motor development. There is suggestive evidence that boys, children whose mothers had more education, and children who were stunted prior to the program benefited more than others.

Impact on mothers and home settings: After the 18-month home intervention, the quality of home environments improved by 0.32 standard deviations, largely driven by an increase in both play materials and activities. Maternal depressive symptoms declined by 0.27 standard deviations, potentially due to social support provided by home visitors. There was no impact on maternal knowledge of child development.

Odisha's early childhood psychosocial stimulation program cost US$251 per child for the entire 18-month period. The per-child cost would likely reduce further if the program reached more children due to economies of scale in training and overhead costs. The program was run and managed by Pratham's Cuttack branch, employing Pratham staff and local community members, and designed to complement India's existing network of Anganwadi centers, thereby suggesting program scalability. Drawing from suggestive evidence, moving forward, the intervention can be modified to better reach less educated mothers, target malnourished children, and support home visitors to ensure a more scalable and cost-effective model.

Andrew, Alison, Orazio Attanasio, Britta Augsburg, Monimalika Day, Sally Grantham-McGregor, Costas Meghir, Fardina Mehrin, Smriti Pahwa, and Marta Rubio-Codina. 2019. "Effects of a scalable home-visiting intervention on child development in slums of urban India: Evidence from a randomised controlled trial." *Journal of Child Psychology and Psychiatry 61*, no. 6 (December): 644-652. doi: 10.1111/jcpp.13171.