

PAKISTAN & INDIA: The Challenge of Scaling an Effective Early Childhood Development Program

Giving children enough nutrition and stimulation in their first years is critical for their physical and mental development, laying the foundation for future learning, work, and the ability to navigate life's challenges. Research has demonstrated lasting effects for young children who receive regular stimulation through language and play: they will perform better in school, earn more, have fewer children, and even provide more for their own children when they receive adequate stimulation, compared to those who don't. In contrast, those without this supportive environment may struggle to reach their developmental potential, and they are more likely to provide inadequate health care, nutrition, and stimulation to their own children, contributing to intergenerational transmission of poverty.

On the bright side, we know from three decades of research that quality early childhood interventions, such as home-based parenting programs that emphasize nurturing care, play, and stimulation, offset these risks, advancing children's brain development in ways that last throughout their lives.

The challenge now lies in scaling up what has worked at a small scale. Key questions include who should deliver the

programs? What supporting infrastructure is needed – particularly to ensure both quality and affordability?

To help address the scalability challenge, the Strategic Impact Evaluation Fund provided funding to support two randomized trials in India and Pakistan. Researchers designed and tested the impact of monthly home visits by community-based workers to promote and support caregivers with responsive care, early learning, and nutrition practices. The program, known as the Sustainable Programme Incorporating Nutrition and Games, or SPRING, tested two different delivery models at scale. In Pakistan, SPRING was embedded into existing monthly home visits of Lady Health Workers, a pre-existing and well-regarded program. In India, it was delivered by a new cadre of workers hired and employed by a non-governmental organization.

While the programs may have led to some improvement in children's diets, there was no discernable impact on physical or developmental outcomes when the children reached 18 months of age. Researchers attributed the lack of impact to implementation challenges.

Context

The SPRING intervention was evaluated in the districts of Rawalpindi in Pakistan and Rewari in the south of Haryana in India. In Pakistan, the program was called Roshan Kal ("Brighter Tomorrow") and was delivered through the government Lady Health Workers Program. The health worker

program provides maternal and child health services to families through home-based visits, including health education on breastfeeding and complementary feeding, child growth monitoring, immunizations, family planning, and basic curative care. The health workers are from the

communities they serve, receive 15 months of training, and have a minimum of eight years of education. Each health worker serves 150–200 households and conducts approximately seven home visits per day. The SPRING content was integrated into these home visits.

A previous study called the Pakistan Early Child Development study demonstrated, as a proof of concept, that early childhood development approaches can be effectively delivered through the Lady Health Worker program. That study found significant impacts for a range of development outcomes, but not for children's physical growth.

In India, the program was called Kilkaari ("gurging of a young child") and was delivered by SANGATH, a non-governmental organization that recruited a new cadre of community-based workers, called Kilkaari workers specifically to deliver the SPRING intervention. Like the Lady Health Workers, they were from the communities they served and were not required to

have advanced education (only a minimum of 8th-grade education was required). Each served a maximum of 100 eligible households.



Photo: UNICEF/Pakistan/Sami Malik

Evaluation

Researchers conducted two cluster randomized controlled trials, one in India and one in Pakistan, to measure the impact of the two implementation models of the SPRING intervention.

In Pakistan, the clusters randomized into different experimental arms were union councils, each covering a population of about 22,000 and serving as the supervisory zones for Lady Health Workers. Twenty union councils were randomly allocated to either a control or treatment group. Lady Health Workers in the 10 union councils assigned to the treatment group received training and were responsible for delivering the SPRING program in addition to their regular duties.

In India, the clusters randomized into the different experimental arms were catchment areas of health sub-centers, each catering to a population of at least 8,000. Twenty-four catchment areas were randomly assigned to treatment or control. In the 12 catchment areas in the treatment group, Kilhaari workers were recruited and trained by the implementing NGO to deliver the SPRING program.

In both locations, SPRING supervisors, who were typically female social science graduates overseen by senior project staff, conducted the training. Training lasted for 8 days but was

divided into two phases of five and three days, respectively, to ensure the quantity of material covered was manageable for the community-based workers and to maximize hands-on learning.

The community workers were tasked with visiting expectant mothers at their homes once a month and continuing the visits through the first two years of a child's life. For pregnant women, the content for the home visits emphasized maternal health and breastfeeding awareness. Postnatal visit content focused on promoting responsive caregiver-child interactions, engaging in play activities, breastfeeding, and introducing complementary and responsive feeding. The specific messages varied each month based on the child's age. These messages were conveyed using a counseling approach grounded in cognitive behavioral therapy techniques, which included family support, guided discovery using visual aids, behavioral activation, empathetic listening, problem-solving, and praise. Community workers were trained to use counselling cards, which included culturally appropriate illustrations for the family to look at and instructions and key messages for the community worker to deliver. In both locations, health workers received ongoing supervision and support.

The sample used to assess impacts were mother-baby pairs. When children were one year old, researchers evaluated the quality of the home environment for child development and the quality of infant feeding practices, collecting information on communication and affection among parents and children, discipline and behavior management, the presence of learning and play materials, and social interactions with individuals who were not the child's caregivers. Child growth and development were measured when children reached 18 months of age. A total of 1,443 children were assessed in India and 1,016 in Pakistan. With the informed consent of parents,

trained enumerators used a range of standardized tests and questionnaires to measure gross motor, fine motor, cognitive ability, receptive language, and expressive language. Measurements were also taken of children's weight and height to assess their physical growth and to identify stunting and wasting.

In addition, researchers conducted a process evaluation, collecting data through surveys and program records on training, supervision coverage, visit coverage, and visit quality.

Findings

The SPRING program had no impact on child development or growth in Pakistan or India by the time children were 18 months old.

The study did not find any detectable differences between the children in treatment and control groups in terms of their motor skills, cognitive ability, or language skills, or physical growth. Nor did the program have an impact on the quality of the home environment for child development at 12 months of age.



Photo: Rama George-Alleyne / World Bank

While the program didn't reach its main objectives, it did improve reported feeding practices.

The percentage of children in the treatment group who were receiving diets at age 12 months that met the World

Health Organization's minimum acceptable criteria was 35 percent higher in India and 45 percent higher in Pakistan, compared to control group children.

While this result may seem encouraging, the majority of children in the treatment group still continued to receive inadequate diets: 68.5 percent in India and 57.7 percent in Pakistan, and late weaning remained a major problem in India.

Researchers attributed the lack of impact to implementation issues. Supervision activities varied across sites.

The programs in both countries had supervision in the field (in which the individual worker's activities would be monitored) and through monthly group sessions (in which workers could share experiences and problem-solve together). In India, monthly group supervision meetings occurred 100 percent of the time, and average attendance was 100 percent. In Pakistan, these group supervision meetings occurred 75 percent of the time, and average attendance was 89 percent. Monthly supervision in the field occurred 91 percent of the time on average in India but only 23 percent of the time in Pakistan. This means that each Lady Health Worker had field supervision an average of 5.5 times over the two years of implementation. Field supervision was difficult in Pakistan as the number of days workers were available for supervision was limited due to other competing obligations, such as polio activities, official meetings, training, maternal and child health week activities, measles campaigns, as well as strikes and public holidays.

Poor quality of the home visits was a key issue in Pakistan.

In a survey, conducted after the program ended in Pakistan, 36 percent of mothers said that their last visit was under 10 minutes long and only 29 percent said that counseling cards were used, suggesting that coverage of SPRING content was most likely suboptimal. The SPRING protocol was more closely followed in India with women reporting longer visit lengths and 78 percent reporting that counseling cards were used in every visit.

In India, visit quality improved over time, but workers didn't visit families as often as they were supposed to.

In India, field supervision records suggested improvements in workers' child development-related skills over time. For example, guiding the mother to be responsive increased

over the course of the intervention from 24 percent in the first supervision round to 75 percent in the final round. Guiding parents to follow the child's lead increased from 19 to 47 percent and modeling behaviors increased from 35 to 79 percent. In Pakistan, some behaviors increased over time, but skills related to family involvement, showing counseling cards, and problem-solving decreased over time in Pakistan.

In India, however, visits did not occur monthly: only 30 percent of caregivers reported a visit in the last month. In contrast, in Pakistan, the mean monthly visit coverage was 92 percent, although since Lady Health Workers visited homes for many reasons, including polio visits, it is not possible to infer that the high visit coverage in Pakistan translated into high coverage of early stimulation and nutrition messages.

Conclusion

The lack of impact on early child development from the SPRING intervention in both settings contrasts with the positive effects seen in smaller-scale evaluations. The study's data from an accompanying process evaluation highlights implementation challenges in ensuring high coverage with high quality.

These findings demonstrate the importance of evaluating "proven" programs at scale. Even when programs are supported by strong "proof of concept" evidence, impact at scale is not guaranteed. Second, the results suggest that programs need feasible strategies to maximize quality, coverage, and supervision and that monitoring and feedback loops may be needed to both identify and address problems when they occur. Future research that generates evidence on scaling early childhood development programs would ideally build this type of iteration into its design.

The Strategic Impact Evaluation Fund, part of the World Bank Group, supports and disseminates research evaluating the impact of development projects to help alleviate poverty. The goal is to collect and build empirical evidence that can help governments and development organizations design and implement the most appropriate and effective policies for better educational, health, and job opportunities for people in low and middle income countries. For more information about who we are and what we do, go to: <http://www.worldbank.org/sief>.

The Evidence to Policy note series is produced by SIEF with generous support from the British government's Foreign, Commonwealth and Development Office and the London-based Children's Investment Fund Foundation (CIFF).



THE WORLD BANK
IBRD • IDA

THE WORLD BANK, STRATEGIC IMPACT EVALUATION FUND
1818 H STREET, NW, WASHINGTON, DC 20433