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EARLY CHILDHOOD DEVELOPMENT

NEPAL: Can information and cash improve children's development?

Convincing parents to invest in appropriate nutrition for their young children isn't always easy. Parents may not understand the importance of good nutrition to a child's development or they may not know which foods will provide the necessary vitamins and minerals. Another problem is that even if they know, they may not be able to afford to make changes in the food they give their children. Policymakers and development organizations are trying to identify the best routes for improving nutrition in low-income countries, where the problem is most acute. One approach is to make sure that families in general, and women in particular, understand the importance of appropriate nutrition for pregnant women and young children, including the need for mothers to breastfeed exclusively for the first six months of a child's life. The question is what are the best methods for getting this information across and ensuring that it leads to behavior change and healthier outcomes.

In Nepal, researchers supported by the World Bank's Strategic Impact Evaluation Fund worked with the government to develop a program to inform pregnant women and mothers of young children on how to best care for themselves and their children, using already ongoing community meetings to deliver messages. An impact evaluation was designed to measure the effectiveness of the information and to test whether combining this with a short-term cash transfer for mothers made the it more effective. The evaluation found that mothers who received both information and cash reported a higher likelihood of breastfeeding their babies and reported that they took recommended vitamins and their households consumed more calories. Also, their children had better fine and gross motor skills as compared to the control group, which didn't receive this intervention. But there weren't any reductions in malnutrition. Two years later, after a devastating earthquake in 2015, researchers returned and found that while mothers still retained more knowledge on good nutrition practices, their children didn't show any continued development gains. **The results are helping the Government of Nepal as it considers new steps for improving child development, and the materials used during the meetings to inform women about healthy nutrition have been adopted for wider use.**

Context

In poor communities in Nepal, malnutrition is a major health issue. Nearly half of all children under the age of five are stunted. The World Bank estimates that two to three percent of Nepal's GDP is lost every year because of the costs associated with ill health and lost opportunities for children who are malnourished and can't reach their full potential. The roots of the problem are varied: According to 2014 statistics from the Government of Nepal, close to one-third of pregnant women in Nepal don't visit a doctor at least once during pregnancy, which is an important time for receiving information on needed nutrition, about a quarter of babies are born with low birth weight, and almost half of babies aren't exclusively breastfed in the first six months.

The Government, working with SIEF-supported researchers, created a pilot program in 2014 for Nepal's extreme poor in four of the country's most marginalized and food insecure districts. The program was designed to provide participants with information on best practices for nutrition, such as exclusive breastfeeding during the first six months of a child's life and regular health checkups.

The program focused on villages where the government's Poverty Alleviation Fund had established local organizations to foster community-led development. These organizations hold monthly community meetings to discuss infrastructure needs and income-generating plans, and the new maternal health and nutrition-focused campaign was delivered at the end of these meetings by a locally known female health volunteer. The curriculum was developed by Helen Keller International, based on World Health Organization standards, and the health volunteers received one week of training on the technical issues they were supposed to cover and on techniques they could use to engage with women attending the community meetings. They also were given cards describing best health and nutrition practices and handouts to use during the sessions.

To measure the impact of adding a cash transfer, some households received a monthly cash transfer of NPR 700 (about USD $7, or 10 percent off a median monthly income). This allowed the research team to measure whether extra cash would help mothers implement what they were learning. The cash was distributed during the meetings. Mothers were told the money was for their children, but in practice they were free to use it as they wanted. While the cash transfer part of the program lasted for five months (May 2014 through September 2014), the community sessions on nutrition and child care went on for nine months (January 2014 through September 2014).

Evaluation

Researchers used a randomized control trial design to evaluate the effects of the program on child development and on mothers' knowledge and behavior.

The trial used a stratified cluster design so that within each of the four districts, each county, locally known as a Village Development Committee, was randomly assigned to one of three groups. One group would receive just information, one group would receive information plus cash payments, and one group would act as the control group and not receive any new information or cash.

Within each county, researchers randomly selected approximately four villages—out of an estimated 30 in each county—to be surveyed for the impact evaluation. The sample included 184 counties, with a total of 591 villages that would be surveyed. Researchers conducted a baseline survey from August 2013 through October 2013 before the program began. In each of the 591 villages, every household with either a pregnant woman or a child under the age of two was surveyed. The midline survey took place from August 2014 through September 2014, and the endline survey took place from November 2014 through December 2014.

Researchers conducted household surveys and mothers were asked about their nutritional knowledge and habits. Researchers also used the Ages and Stages Questionnaire, which includes age-specific questions for mothers that gauge children's communication, gross motor, fine motor, problem solving, and personal social skills. A total of 4,228 women and 3,695 children under two years old were surveyed at baseline, and at endline the sample was 2,338 women and 1,953 children.

Information sessions focused on:

- Nutrition for pregnant women
- Breastfeeding practices
- Proper care for sick children
- Supplemental feeding for older babies

This policy note is based on "The Role of Information and Cash Transfers On Early Childhood Development: Evidence from Nepal," Michael Levere, Gayatri Acharya, Prashant Bharadwaj, World Bank, Policy Research Working Paper 7931, December 2016.

Results

Mothers who received the information through community meetings knew more than those in the control group about how best to care for their children and themselves—and the women who also got cash showed the most substantial increase in knowledge.

Before the program began, just half of the mothers said that babies should be exclusively breastfed, and only half said that pregnant women should eat more than women who aren't pregnant. Mothers who received the information and cash improved their knowledge about the importance of things such as breastfeeding, taking Vitamin A and health checkups. For women who received information only, the increase in knowledge was about half as large as that seen among women who received also cash.

Women who received the cash may have learned more because the money was distributed at the information sessions; or perhaps those who received the money were more invested in what they learned because they saw cash as a way for making changes for themselves and their children.

Mothers who received information and cash were more likely to report going for prenatal checkups, breastfeeding their babies, and taking a recommended vitamin A supplement.

Mothers who received both information and cash not only improved their knowledge of best childcare practices when compared with women who didn't receive any special information sessions, but they also reported changes in behavior. They were more likely to report giving their babies only breastmilk and more likely to say they had gone for prenatal visits and had taken vitamin A supplements. In addition, mothers in this group also reported that their families consumed about 100 more calories per person per day.

Among women who received information sessions without cash, there were also positive changes in reported behavior when it came to breastfeeding, prenatal checkups, and supplements. The big difference between the two groups was around calorie intake: households where women didn't receive the cash didn't report an increase in daily calorie intake. When it came to eating a more varied diet, however, mothers who lived in areas where only the informational meetings were available, reported an improvement, but the group that also received cash didn't. It's unclear why this was seen in the information group only.

Children whose mothers received both cash and information showed improved development measurements, concentrated in better gross and fine motor skills.

For children born before the program, the improvement amounted to a statistically significant increase of nearly 0.1 standard deviations on the Ages and Stages Questionnaire. Also known as ASQ, it measures cognitive, communication, socio-emotional, and motor skills. The changes were mainly in better motor skills. Children whose mothers received only information didn't show similar improvements.

Physical health for these children whose mothers received information and cash didn't improve.

For children born prior to the program, anthropometric measurements, which look at a child's size along a growth curve, and the likelihood of having an illness

in the previous 30 days remained unchanged in areas where informational meetings alone were held and in areas where mothers also received cash transfers.

Results were mixed when it came to the impact on children born after the program started and whose mothers went to informational meetings.

Given the increase in knowledge among mothers and the improvement in reported health practices, it would be expected that babies born during or after the period when informational sessions were held would benefit. That wasn't always the case. Children born after the program started were less likely to be suffering from extreme and chronic malnutrition, known as wasting (about 10 percent of children in Nepal under the age of five suffer from wasting), if their mothers were in the group that received informational meetings but didn't receive cash. However, children in this group also showed significant declines in measures of communication, gross motor, and socio-emotional skills. It's unclear why this was the case. However, children born after the program started to mothers who received information and cash didn't show any differences from the control group in terms of wasting or cognitive and physical skills.

Two years later, after a devastating earthquake in April 2015 that killed an estimated 9,000 people, researchers went back to see how mothers and children who had been in the pilot program had fared.

Mothers who had received information and cash continued to show better knowledge and to report better behavioral practices around infant health and feeding practices. However, there was no discernable impact on children's physical, cognitive, or socio-emotional development.

Conclusion

Providing mothers information—and the cash to see changes through—may be a good route for helping families understand the importance of nutrition and giving them the financial means to improve nutritional practices in the home. However, the impacts of this evaluation were mixed, a possible sign that information and short-term cash injections might not be sufficient to generate lasting change in children's development. There were also some results that require further scrutiny, such as why children born after the program started—and thus should have benefited the most from their mothers' new knowledge -- either didn't benefit or actually showed some declines in skills. Further research might focus on testing longer interventions, involving both for cash and information, and exploring whether there are other routes for reinforcing the messages.

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 developing countries.** For more information about who we are and what we do, go to: http://www.worldbank.org/sief.

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