

# Book Sharing: In-home Strategy to Advance Early Child Development Globally

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Progress in reducing child mortality in low- and middle-income countries (LMIC) has created an opportunity to take the next step in improving children's lives: promoting their early development. Every year, ~249 million children, mainly from LMIC, fail to reach their developmental potential.<sup>1</sup> Loss of developmental potential is a consequence of both biological risk factors (such as malnutrition and illness) and insufficient cognitive stimulation, and successful programs are used to address both types of risk.<sup>2,3</sup>

Social change has accelerated globally, with important implications for families who are adapting to a world that is increasingly urban and formally educated.<sup>4</sup> Concurrently, early childhood development (ECD) has increasingly been prioritized as a means for improving not only the outcomes for individual children but also the social and economic well-being of whole societies.<sup>5</sup> Notably, the recently ratified United Nation Sustainable Development Goals include ECD for the first time, with the ambitious target of ensuring that all children have access to quality ECD and preprimary education by 2030 so that they are ready for primary education.<sup>6</sup> However, brain development starts well before children enter preschool,<sup>7</sup> so to maximize effectiveness, ECD interventions need to be scalable to reach children in the first years of life and need to occur in the home where young children spend most of their time.

Our goal for this commentary is to suggest that the availability of books in the home that parents or older siblings can share with young children will be an important component of any optimal ECD strategy, in addition to high-quality preschool programs. Although the unique value of early exposure to picture books in laying the cognitive, linguistic, attentional, and motivational foundations for later learning is now generally recognized,<sup>8</sup> this insight has yet to be incorporated into interventions in the context of LMIC.

Leading international organizations now recognize the central role of early caregiving in supporting children's development, giving a nod to early literacy without giving it the prominence it deserves. Early learning approaches described by the Nurturing Care Framework, an evidence-based policy roadmap developed by the World Health Organization, the

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United Nations Children's Fund, the World Bank, and others, emphasize the importance of early relationships based on interactions that are responsive and developmentally enriching.<sup>9</sup> The 5 components of the framework are good health, adequate nutrition, responsive caregiving, security and safety, and opportunities for early learning, including access to toys and books. Although books and toys are mentioned together, these elements are not equivalent. Toys and play materials often have a short half-life, holding children's interest only briefly. By contrast, picture books often become special treasures because children demand that their parents read to them over and over, and the book-centered interaction grows in complexity to match the child's developmental progress.<sup>10</sup>

The likely key to why young children particularly value books is because they are shared with parents or other special people in a child's life. Book sharing is a powerful early learning experience because it involves joint attention, language interaction, and shared enjoyment; it is also unhurried. Joint attention supports positive, reciprocal interactions and helps parents scaffold and entrain a young child's attention span.<sup>11</sup> Pointing and naming that is focused on picture books stimulate language development in the youngest children, as does dialogic reading (asking linked questions to create dialogue in toddlers and older children). The neurobiological basis of how conversational aspects of book sharing promotes children's language skills has been described.<sup>12</sup> Reciprocal, enjoyable interactions build social-emotional connection and resilience and may foster theory of mind or the ability to take another's perspective (ie, understand that others have different thoughts and feelings). Younger and older siblings may benefit, as well as parents, when regular reading aloud is adopted as a practice. Thus, book sharing and

reading are a mechanism for helping families adapt to a new economy that favors literacy and interpersonal and communication skills.

Barriers to implementation of book-based interventions in LMIC include parental literacy, distribution, and cost. Despite steady advances, illiteracy among women in LMIC poses a special challenge to picture-book use.<sup>13</sup> For preschool-aged children, however, parents who are unable to read can still be effective in instilling a love of books. The rewards of book sharing do not depend on parents reading the words on the page but rather are maximized when parents venture beyond the text; elicit touching, pointing, and naming; and ask children questions.<sup>14</sup> It is the free-response verbal interaction that engages young children and stimulates their brains far more than recitation of the printed words.<sup>15</sup> In a low-income Mexican setting, for example, training day care providers to engage with children in verbal dialogues rather than reading the words resulted in significant gains in vocabulary, a robust predictor of school success.<sup>16</sup> Many parents who do not read fluently can nonetheless help their children identify letters and the sounds they make. Parents with low literacy skills are often highly motivated to support the development of literacy in their children.<sup>17</sup>

The key to teaching parents to create optimal book-sharing interactions is to give them age-appropriate and culturally appropriate books and model effective book-sharing techniques. In the LMIC context, videos of people from local contexts can be used to disseminate these skills. This approach has been implemented and is being evaluated in a randomized controlled trial of 100 rural villages in China. Limited parental literacy should be seen as an opportunity for effective intergenerational intervention, rather than as a barrier.

A variety of models for book distribution have been tried. Books can be distributed through parent groups and returned or, as in Ethiopia, exchanged through mothers' group meetings so that children and parents can be exposed to a variety of different books. Books can be given to children in health or nutrition centers when they receive immunizations, which may confer an added benefit of greater compliance for immunizations. In Turkey, picture books have been distributed in the context of medical visits for acute illness as part of the United Nations Children's Fund Care for Development Intervention, with the recognition that these visits often provide the only opportunity for access to families by professionals.<sup>18</sup> Common to all of these approaches is their aim that books are available in the home and shared with young children, not stored in a special place and saved for fear of damage.

Cost is another concern, but it need not be prohibitive. At a country level, investment in a publishing house to produce children's books instead of purchasing them abroad can create jobs, contribute economically, keep prices affordable, and ensure access to culturally relevant books and pictures. The substantial cost-benefit advantage of early interventions to support child development has been amply documented.<sup>19</sup>

Evidence is emerging for the effectiveness of book-based early childhood interventions in LMIC. The Reach Out and Read program, which has been extensively validated for low-income families in the United States,<sup>20</sup> has been successfully implemented in rural India,<sup>21</sup> Taiwan, the Philippines, and Israel as well as in rural and lower-income regions in Canada and Italy.<sup>22</sup> A randomized controlled trial in South Africa of 14- to 16-month-old children revealed that children whose parents were trained to provide dialogic book sharing for 8 weeks knew more

words and showed increased attention compared with children who receive no intervention.<sup>23</sup> As has been demonstrated by the Reach Out and Read program,<sup>20</sup> pediatricians can play a special role in these efforts by lending verbal support for community-based efforts, distributing books at health visits, providing examples with volunteers or videos of developmentally appropriate strategies for book sharing, and having books in waiting rooms.<sup>20</sup>

## CONCLUSIONS

We suggest that the availability of books and book sharing between parents, older siblings, and/or relatives and young children in LMIC is an important next step, along with the institution of high-quality early preschool programs, to improve children's intellectual and social-emotional development and their long-term economic well-being.<sup>24</sup> Books constitute a simple, scalable, and sustainable intervention that engages parents in advancing ECD globally.

## ABBREVIATIONS

ECD: early childhood development  
LMIC: low- and middle-income countries

## REFERENCES

- Lu C, Black MM, Richter LM. Risk of poor development in young children in low-income and middle-income countries: an estimation and analysis at the global, regional, and country level. *Lancet Glob Health*. 2016;4(12):e916–e922
- Engle PL, Black MM, Behrman JR, et al; International Child Development Steering Group. Strategies to avoid the loss of developmental potential in more than 200 million children in the developing world. *Lancet*. 2007; 369(9557):229–242
- Walker SP, Wachs TD, Gardner JM, et al; International Child Development Steering Group. Child development: risk factors for adverse outcomes in developing countries. *Lancet*. 2007; 369(9556):145–157
- Greenfield PM. Social change, cultural evolution, and human development. *Curr Opin Psychol*. 2016;8:84–92
- Black MM, Walker SP, Fernald LCH, et al; Lancet Early Childhood Development Series Steering Committee. Early childhood development coming of age: science through the life course. *Lancet*. 2017;389(10064):77–90
- United Nations. Transforming our world: the 2030 agenda for sustainable development. 2015. Available at: <https://sustainabledevelopment.un.org/post2015/transformingourworld/publication>. Accessed September 27, 2018
- Luby JL. Poverty's most insidious damage: the developing brain. *JAMA Pediatr*. 2015;169(9):810–811
- High PC, Klass P; Council on Early Childhood. Literacy promotion: an essential component of primary care pediatric practice. *Pediatrics*. 2014; 134(2):404–409
- Britto PR, Lye SJ, Proulx K, et al; Early Childhood Development Interventions Review Group; Lancet Early Childhood Development Series Steering Committee. Nurturing care: promoting early childhood development. *Lancet*. 2017;389(10064):91–102
- Snow C. Literacy and language: relationships during the preschool years. *Harv Educ Rev*. 1983;53(2): 165–189
- Farrant BM, Zubrick SR. Early vocabulary development: the importance of joint attention and parent-child book reading. *First Lang*. 2012;32(3):343–364
- Romeo RR, Leonard JA, Robinson ST, et al. Beyond the 30-million-word gap: children's conversational exposure is associated with language-related brain function. *Psychol Sci*. 2018;29(5): 700–710
- United Nations Educational, Scientific and Cultural Organization Institute for Statistics. *Literacy Rates Continue to Rise From One Generation to the Next*. Montreal, Canada: United Nations Educational, Scientific and Cultural Organization Institute for Statistics; 2017
- Ninio A, Bruner J. The achievement and antecedents of labelling. *J Child Lang*. 1978;5(1):1–15
- Whitehurst GJ, Falco FL, Lonigan CJ, et al. Accelerating language development through picture book reading. *Dev Psychol*. 1988;24(4):552–559
- Valdez-Menchaca MC, Whitehurst GJ. Accelerating language development through picture book reading: a systematic extension to Mexican day care. *Dev Psychol*. 1992;28(6):1106–1114
- National Research Council. *Preventing Reading Difficulties in Young Children*. Washington, DC: The National Academies Press; 1998
- Ertem IO, Atay G, Bingoler BE, Dogan DG, Bayhan A, Sarica D. Promoting child development at sick-child visits: a controlled trial. *Pediatrics*. 2006; 118(1). Available at: [www.pediatrics.org/cgi/content/full/118/1/e124](http://www.pediatrics.org/cgi/content/full/118/1/e124)
- Campbell F, Conti G, Heckman JJ, et al. Early childhood investments substantially boost adult health. *Science*. 2014;343(6178):1478–1485
- Zuckerman B. Promoting early literacy in pediatric practice: twenty years of reach out and read. *Pediatrics*. 2009; 124(6):1660–1665
- Srivastava G, Bhatnagar S, Khan H, Thakur S, Khan KA, Prabhakar BT. Impact of a clinic based literacy intervention Reach Out and Read (ROR) modelled program on preschool children in India. *Int J Contemp Pediatrics*. 2015;2(4): 345–348
- Tamburlini G, Manetti S, Toffol G. Primary health care and early childhood development. *Lancet*. 2011;378(9807):e16
- Vally Z, Murray L, Tomlinson M, Cooper PJ. The impact of dialogic book-sharing training on infant language and attention: a randomized controlled trial in a deprived South African community. *J Child Psychol Psychiatry*. 2015;56(8): 865–873
- Gertler P, Heckman J, Pinto R, et al. Labor market returns to an early childhood stimulation intervention in Jamaica. *Science*. 2014;344(6187): 998–1001