Effectiveness of parent support programmes in enhancing learning in the under-3 age group

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While considerable research has been done on the impact of preschool in developing countries, there is less information available to guide policy on effective large-scale programmes for the 0–3 years age group. This article reviews the evidence on the impact of interventions aimed at improving early learning and parent–child interaction for children aged 0–3 through strategies to enrich parenting practices and empower parents to facilitate child learning.

Parent support programmes for children aged 0–3 have employed a variety of approaches aimed at enhancing the capacity of the mother or primary caregiver to provide stimulation and quality interactions. This article looks at home visits, individual counselling sessions at clinics, and group sessions for parents.

Home visits have been evaluated in several countries including Bangladesh, Brazil, Colombia, India, Jamaica and St Lucia, to assess the benefits for child development through improved caregiver–child interaction. The earliest study was conducted in poor neighbourhoods in Bogotá, Colombia and involved home visits to promote activities that encouraged exploration of the environment with children aged 6–36 months and their mothers (Waber *et al*., 1981).

In Jamaica, studies have involved children with different risks for development – severely malnourished children (Grantham-McGregor *et al*., 1987), stunted children (Grantham-McGregor *et al*., 1991), and term low-birthweight infants (Walker *et al*., 2004) – and have also evaluated the impact of visit frequency (Powell and Grantham-McGregor, 1989) and the feasibility of integrating home visits into nutrition services (Powell *et al*., 2004). Visits were conducted by community health workers (CHWs) and included demonstration of play activities and involving the mother, or primary caregiver, in a play session with the child. Visits comprised various combinations of language activities, games, songs, simple jigsaw puzzles, and crayon and paper activities. Home-made toys and simple picture books were used and left in the home, to be exchanged at the next visit. Emphasis was placed on enriching verbal interaction between the mother and child and mothers were also encouraged to use positive feedback and praise and to avoid physical punishment (more details on curriculum, training and supervision of the CHWs can be found in Walker, 2011).

A further Jamaican study was an evaluation of an ongoing programme ('Roving Caregivers', an intervention model first piloted with Bernard van Leer Foundation support) implemented by an NGO (Powell, 2004). In this case, visitors were young women who had just completed secondary school. They were given two weeks' training and fortnightly workshops to discuss and prepare for the visits. Observations and feedback from the mothers suggested that there was less emphasis on including the mother in the play session. However, the programme included monthly meetings for the parents at which child development, parenting, and other topics were discussed. A further evaluation of this programme was conducted in St Lucia (Janssens and Rosemberg, 2011)

The home visit intervention with CHWs used in Jamaica was adapted for Bangladesh, incorporating traditional games and songs. Visits were conducted by literate village women in one study and female health workers in another. In addition to the home visits, in both studies mothers attended centres where individual play sessions (Nahar *et al*., 2009) or group sessions on topics concerning child development and the importance of play (Hamadani *et al*., 2006) were conducted. In a third study, instead of home visits individual play sessions with mother and child were conducted at visits to a community clinic (Nahar *et al*., 2012).

The intervention evaluated in Brazil, (Eickmann *et al*., 2003) combined group sessions to demonstrate and practise play activities and interaction with home visits to reinforce the workshops through play sessions with the mother and child. In India, home visits were conducted for families with children aged 3–15 months and involved counselling and practice on responsive play with provision of developmentally appropriate toys over five visits (Vazir *et al*., 2012).

All reviewed evaluations of parent support provided through home visits demonstrated significant benefits for child development.
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All evaluations of parent support provided through home visits demonstrated significant benefits for child development. A few had small effect sizes, but typically effects were medium to large. Home visiting programmes benefited development in children recovering from severe malnutrition (Grantham-McGregor *et al.*, 1987; Nahar *et al.*, 2009; Nahar *et al.*, 2012), undernourished children (Grantham-McGregor *et al.*, 1991; Powell *et al.*, 2004; Hamadani *et al.*, 2006) children with iron deficiency anaemia (Lozoff *et al.*, 2010) low-birthweight infants (Walker *et al.*, 2004) and in generally disadvantaged children in poor communities (Powell and Grantham-McGregor, 1989; Eickmann *et al.*, 2003; Powell, 2004; Vazir *et al.*, 2012). In the evaluation of Roving Caregivers in St Lucia, overall benefits were not found; however, children who were younger when the programme began showed benefits. (Janssens and Rosemberg, 2011)

Important characteristics of home visiting interventions

Home visitors

The evaluations of home visit interventions show that they can be successfully implemented by women who have completed only primary education or partially completed secondary education. In most studies, visitors have been mature women of similar age or older than the mothers being visited. In contrast, the Roving Caregivers programme in Jamaica used young women in a national youth service programme. Although the intervention benefited children's development, some concern was expressed that these young women were less able to engage the mothers and to ensure they participated fully in the visits, and the visitors sometimes conducted the play sessions with the child alone (Powell, Christine, personal communication). This may have implications for the sustainability of benefits.

Supervision

Supervision is essential to maintain quality of the visits and provide ongoing support for the visitors. In most of the evaluations this was conducted by a professional with training in child development, although in one study this role was accomplished by the clinic nurse (Powell and Grantham-McGregor, 1989). Supervision involved observation of home visits and regular meetings with the visitors to discuss the visits and plan for subsequent ones. The supervisors provided guidance on the content of the visits to ensure the activities were at appropriate levels for individual children, and to give feedback on both the content of the visits and the manner in which they were conducted. For example, a focus of the Jamaican interventions has been the empathy of the visitor and her role in supporting the mother in becoming more effective at promoting development. Supervision is an essential component and is an important consideration in planning for scaling-up of interventions.

Visit frequency

The frequency of visits necessary to achieve benefits to child development is also important in determining the feasibility of implementing similar interventions on a larger scale. The study by Powell and Grantham-McGregor (1989) is the only one to formally evaluate the impact of visit frequency on the level of benefit achieved and concluded that a minimum of fortnightly visits was necessary. The frequency of contacts (home visits plus group sessions where used) in most of the interventions was two to four times per month. Thus benefits to child development can be anticipated from programmes where at least two visits are achieved per month. Further work is needed to determine whether benefits can be achieved when there are less frequent sessions with the mother and child.

Individual counselling of mothers at clinics

Despite the consistent evidence that providing parenting education through home visits benefits child development, the model remains a high-intensity one in terms of human resources. Alternative strategies to reach greater numbers of children are needed, but evidence of their impact on child development is limited.

One approach has been to provide parents with counselling and training when they access health services. This model has been developed by the World Health Organization and UNICEF as Care for Child Development, to be part of the Integrated Management of Childhood Illness strategy (WHO/UNICEF, 2012). The package provides guidelines for health professionals to counsel parents on how to promote development and includes counselling cards with age-specific messages and illustrations of activities. Counselling sessions lasting 5–10 minutes are done with individual mothers; they can be done whenever the mother and child attend the health service for well child or sick visits.

There is limited information about the impact of this approach on child development. A study conducted in a rural county in China, based on the Care for Child Development materials, showed significant benefits for child development for children whose mothers received two 30- to 60-minute counselling sessions, compared with controls (Jin *et al.*, 2007). The findings have to be interpreted with caution as the evaluator was aware of the children's group assignment. Evaluations in three Central Asian countries following training of health staff in Care for Child Development suggest benefits, according to mothers' reports on two or three of the five subscales of the Ages and Stages Questionnaire (Engle, 2011).

Another study using a clinic-based approach involved HIV-infected children whose mothers or caregivers were coached in individualised stimulation plans when they attended the clinic for the child's regular three-month visit (Potterton *et al.*, 2009). Activities centred on developmentally appropriate play that could be part of the family's usual daily routine. After one year, significant benefits to mental and motor development were seen from the intervention, although both intervention and control groups remained severely delayed.

More evidence is needed on the use of individual counselling of parents during health visits to promote child development. In the available studies interventions were conducted by health professionals, which would have implications for scaling up. It is also likely that counselling sessions need to be long enough to allow time for demonstration of activities and for mothers to practise.

Parent training at group sessions

The numbers of parents and children reached by interventions to improve parenting behaviours could also be increased by delivering interventions through group sessions. Again, relatively few evaluations of this approach have been done.

In a parenting programme in Bangladesh, groups of about 20 mothers attended 90-minute educational sessions on health, nutrition, and promotion of child development (Aboud, 2007). Sessions were conducted by women with some secondary education who were given training and supervision. Mothers attended

an average of 16 sessions. No benefits were seen for children's receptive vocabulary, which was the only measure of child development, or for mother–child verbal interaction. Small to moderate effects on mothers' knowledge and stimulation in the home were seen. Within the sessions, positive behaviours were encouraged and attempts were made to engage the mothers in discussion and problem solving. However, use of demonstration was limited, and very few materials were used.

Following this an improved approach to delivery of the parent group sessions was implemented and evaluated (Aboud and Akhter, 2011). In addition to the usual parenting sessions on health, nutrition and child development, parents received six sessions on responsive feeding and play with demonstration, practice and identification of materials in the home that could be used for play. There were benefits to children's language and mothers did more responsive talking and provided more stimulating home environments.

A community-based group parenting programme in Paraguay, using volunteer leaders, had significant benefits for children's mental development (Peairson *et al.*, 2008). Parents attended monthly meetings at which they were encouraged to promote development by playing and chatting with their children. Volunteers also conducted home visits, but little information is available on what these involved or their frequency.

Sustainability of benefits

The studies reviewed provide consistent evidence that interventions to improve parent–child interaction and learning opportunities for children from birth to age 3 through a variety of approaches benefit the development of children from poor families in low- and middle-income countries. Children who receive early interventions are therefore likely to benefit more from preschool and then from formal schooling. Early cognitive ability at school entry predicts school outcomes such as achievement levels and grade level attained (Grantham-McGregor *et al.*, 2007). It is therefore possible that gains in early development will be associated with long-term gains in education, to the benefit of both the individual and society.

A few follow-up studies suggest benefits may be sustained but more studies like these are needed. In Jamaica, a home visit programme with term low-birthweight infants that ended at age 2 years had benefits at age 6 in terms of performance IQ and memory, and reduced behavioural difficulties (Walker *et al.*, 2010). The reduction in behavioural difficulties may be particularly important for these children at a time when they are making the transition to primary school. In an earlier Colombian study, home visits up to age 3 were associated with better reading readiness at age 7 in boys only (Super and Herrera, 1991).

A small study of severely malnourished children followed up participants in adolescence 11 years after the intervention had ended. The group that received stimulation had higher IQ scores than children who had not received the intervention (Grantham-McGregor *et al.*, 1994) and they also had higher scores in reading and overall school achievement. The most comprehensive evidence of long-term benefits from early intervention comes from the Jamaican study of stunted children. Benefits to cognition, education and mental health and behaviour have been seen up to age 22 years (Walker *et al.*, 2011).

In all the studies with follow-up, home visits were conducted weekly and continued for 18 months to 3 years. In Jamaica the programme focused on working with mothers to enable them to be more effective in promoting their child's development. Mothers were encouraged to chat with and listen to their children, to use everyday activities to teach concepts, and to integrate play activities into their daily routine. It is likely that visit frequency, duration of the programme and the emphasis on reaching the child through the mother contributed to the sustainability of intervention benefits.

Conclusions

Promoting optimal development among children from birth to 3 years of age requires attention to nutrition, health, and ensuring quality caregiver–child interaction and learning experiences. Programmes that work with parents to help them better promote their children's development lead to gains in child development, with the strongest evidence for strategies that provide parental enrichment through home visits. Sustained benefits for cognitive and psychological functioning and educational achievement have been demonstrated. These are likely to benefit adult earning, functioning in society, and parenting of the next generation. More evidence is urgently needed for other approaches to delivering parent support including individual counselling and parent groups, and other ways to implement parent support at scale.

A set of strategies needs to be developed to provide comprehensive early childhood programmes that include learning opportunities, nutrition, and health. There is a critical need for continued advocacy for expansion of parenting programmes to improve learning for children from birth to age 3. These need to be included as part of the core set of services provided for children under 3 years of age.

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