IN THIS ISSUE OF THE American Journal of Occupational Therapy, the project leaders, including Marian Arbesman, Deborah Lieberman, and myself are pleased to present five systematic review articles that examine the effectiveness of early childhood interventions used by occupational therapy practitioners. Occupational therapists have a long history of working with infants and young children with disabilities and developmental delays and have had leadership roles in providing interventions to children across hospital, home, community, and school settings. The profession’s emphasis on family-centered approaches; expertise in how to promote children’s play and functional performance; and focus on the interactions among children, their occupations, and their environments position occupational therapists as vital members of early intervention teams.

Background

Initially, the education laws for children with disabilities did not include infants and toddlers. When the Education for All Handicapped Children Act (Pub. L. 94–142, which later became the Individuals With Disabilities Education Act of 1990 [IDEA]) passed in 1975, states were required to provide free and appropriate education, including occupational therapy, to school-age children. Through reauthorizations in the 10 years that followed, services were extended to children beginning at age 3. By 1986, the law’s success was recognized by Congress, which reached agreement that services provided earlier in life could prevent or lessen the effects of disability.

At that time, Congress came to the consensus that early intervention would result in lower special education costs over time and ultimately promote greater independent living for people with disabilities (Florian, 1995), thereby approving a Part H amendment (later Part C of IDEA) to the Education for All Handicapped Children Amendments of 1986 (Pub. L. 99–457). This new section of the law established systems of care for infants and toddlers, requiring that states provide Child Find services, multidisciplinary evaluation, individualized family service plans (IFSPs), and service coordination. The new early intervention legislation differed from the 1975 Education for All Handicapped Children Act in that it (1) included services to children at risk for disability; (2) allowed state agencies other than education to administer the law; (3) mandated interagency services; and (4) through the IFSP, encouraged teams to provide services that were guided by family priorities and directly benefited families (Florian, 1995).

Primary goals were to enhance the development of infants and toddlers with disabilities, reduce education costs, improve outcomes for children (i.e., increase the potential for independent living), and enhance the capacity of families to meet their children’s needs (Bailey et al., 1998). Later IDEA Part C amendments (IDEA 1997, Pub. L. 105–117) clarified that early
intervention services should be provided in the child’s natural environment, that is, in homes and child care centers, and required that early planning facilitate the family’s transition from early intervention services to preschool programs.

Federal regulations for Part C require that families be full partners in planning and implementing early intervention services and that states establish comprehensive, multidisciplinary, and coordinated services (Early Intervention Program for Infants and Toddlers With Disabilities, 2011). Now, 25 yr since the early intervention legislation was enacted, every state participates in the Program for Infants and Toddlers With Disabilities (Part C) and has established comprehensive statewide early intervention programs for infants and toddlers with developmental delays and disabilities and for their families (Hebbeler et al., 2007).

Role of Occupational Therapy

Before enactment of the early intervention legislation, the first programs for infants who demonstrated developmental delays or were at risk because of biological (e.g., preterm, low birthweight) or environmental (e.g., low socioeconomic status) factors were infant stimulation programs. In a review of infant stimulation studies, Schaefer, Hatcher, and Barglow (1980) reported that preterm infants benefited from interventions that provide vestibular, kinesthetic, and tactile stimulation. In the 1970s and 1980s, occupational therapists provided services to infants in community-based infant stimulation programs as well as in hospital outpatient programs.

In one of the first systematic reviews of occupational therapy interventions for children, Ottenbacher et al. (1987) reported that tactile stimulation programs for infants of very low birthweight resulted in positive outcomes in a variety of developmental domains. At the same time, studies of multidisciplinary programs that educated parents on strategies to improve developmental performance in low-birthweight infants were found to be effective. In a meta-analysis of efficacy studies of early intervention programs from 1937 to 1984, Casto and Mastropieri (1986) found positive short-term effects on infants’ developmental skills. Programs of greater intensity and duration produced greater effects; however, this meta-analysis did not establish the long-term benefits. At this time, the benefits of infant stimulation began to be questioned, with some expressing concern that fragile young infants could be overstimulated and that overstimulation might be detrimental (Cole & Frappier, 1985). From these concerns, practitioners and researchers developed interactive and responsive interventions that followed the infants’ cues and were individualized to infants’ developmental needs (Als et al., 1994). These interventions set the stage for responsive parent–infant interaction interventions that remain essential elements of current practice.

More recent meta-analyses have demonstrated meaningful benefits from early intervention programs for infants and families (Blauw-Hospers & Hadders-Algra, 2005; Orton, Spittele, Doyle, Anderson, & Boyd, 2009). These researchers reported moderate positive effects on cognitive outcomes and low to moderate positive effects on motor outcomes. The National Early Intervention Longitudinal Study (NEILS), which surveyed teachers and parents, reported findings from 2009 to 2010 that 71%–76% of children receiving early intervention services demonstrated improvement across performance areas, including social relationships, reasoning, problem solving, feeding, dressing, and other self-care. Between 54% and 62% of children receiving early intervention services met developmental age expectations at age 3 (Early Childhood Outcomes Center, 2011). Although few longitudinal studies have been completed, the NEILS longitudinal study has demonstrated positive benefits for early intervention programs on the basis of child outcomes at kindergarten (Hebbeler et al., 2007).

A transactional–ecological framework guides occupational therapy interventions in early intervention services; that is, development in young children with disabilities is influenced by interrelated biological, social (primarily family), and cultural factors (e.g., family traditions, resources, values, and beliefs on child rearing; Bailey et al., 1998; Case-Smith, 2010; Humphry & Wakeford, 2008; Law, 2002). Per the intent of IDEA, early intervention services are most often provided in the natural environment, which in most instances is the home. The NEILS survey found that 76% of children received early intervention services in the home (Hebbeler et al., 2007). Services in the home allow the therapist to gain a perspective on the family’s values, routine, and relationships, promoting therapeutic activities that easily fit into the family’s daily routine. In home-based services, occupational therapists provide the culturally relevant strategies that match the child’s environment and the family’s resources. They focus on the child’s participation in play and everyday activities, recognizing that children can easily generalize skills learned in their natural environment.

Occupational therapists recommend strategies for adapting the environment or daily routines to accommodate the child’s special needs and activities to promote the child’s functional performance (Edwards, Millard, Praskac, & Wisniewski, 2003). They primarily use implicit learning strategies with families, modeling techniques for feeding or methods to enhance play and using coaching techniques in which they encourage the parent to feed, position, or play and interact with the infant while they provide feedback, reinforcement, and encouragement (Colyvas, Sawyer, & Campbell, 2010).

Parents have reported that they learn intervention strategies best when they are actively involved and have opportunities to attempt strategies in the presence of a therapist (Colyvas et al., 2010). Families and therapists agree that services should be flexible, focus on relationships, consider all of the child’s developmental strengths and limitations, and emphasize family priorities (Dunst, Trivette, & Deal, 1994; Turnbull et al., 2007). Findings from NEILS showed that 98% of families participating in early intervention felt competent in caring for their children’s basic needs and 90% reported that early intervention services had improved their ability to help their children develop and learn (Early Childhood Technical Assistance Center, 2011). Families and children have clearly benefited from early intervention programs.
In summary, occupational therapists have had leadership roles in establishing and implementing best practices in early intervention. These roles include (1) providing family-centered services that honor the family’s priorities; (2) providing and recommending therapeutic activities that promote development across domains; (3) enhancing young children’s play, self-care, and social interaction with implications for benefits across occupational performance; (4) providing services in natural environments and the family’s routine; and (5) emphasizing interventions, including assistive technology when appropriate, that promote the child’s participation in family, school, and community activities.

In This Issue

The systematic reviews in this issue identify and analyze the research evidence for early childhood interventions within the scope of occupational therapy. Three analyze interventions that promote social–emotional (Case-Smith, 2013), cognitive (Frolok Clark & Schlabach, 2013), and motor (Case-Smith, Frolok Clark, & Schlabach, 2013) outcomes in young children at risk for or with disabilities. One review (Howe & Wang, 2013) synthesizes the evidence for interventions to improve feeding competence in young children, and one review (Kingsley & Mailloux, 2013) synthesizes the research evidence for models of early intervention service delivery.

Together, these articles synthesize the research evidence for early interventions provided by occupational therapists, generally in the context of multidisciplinary teams in medical and educational systems. The reviews report positive effects for interventions that promote parent–child interaction, are provided in the child’s natural environments, and use individualized play-based, educational, or behavioral approaches. Although a few studies reported the effects of family-centered interventions, most focused on child performance, suggesting the need for additional studies of interventions that promote family occupations when young children experience impairment or disability.

Conclusion

Occupational therapy scholars will continue to take leadership roles in researching family-centered, routine-based interventions that focus on the child’s participation in his or her natural environments. In addition, occupational therapy practitioners are well positioned to lead interprofessional teams in developing and implementing interventions that emphasize the child’s participation in home and community environments, that embrace the family’s priorities, and that enhance the family’s ability to support their child’s development. ▲

References


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