

Early Intervention for Disabled Infants and Their Families: A Quantitative Analysis

Jack P. Shonkoff, MD, and Penny Hauser-Cram, EdD

From the Early Intervention Collaborative Study, University of Massachusetts Medical School, Worcester, and the Eliot-Pearson Department of Child Study, Tufts University, Medford, Massachusetts

ABSTRACT. In an evaluation of 31 selected studies, statistical procedures for synthesizing data (meta-analysis) were used to assess the effects of early intervention services on disabled children younger than 3 years of age and on their families. Results indicate that early intervention is effective in promoting developmental progress in infants and toddlers with biologically based disabilities. Programs that served a heterogeneous group of children, provided a structured curriculum, and targeted their efforts on parents and children together appeared to be the most effective. Definitive evaluation of the efficacy of early intervention programs is tempered by the restricted range of outcomes measured and by a paucity of information about the children and families enrolled in such programs, as well as about the specific nature of the services received. Despite their limitations, available data provide the basis for a rational pediatric approach to early intervention programs, while highlighting specific directions for further investigation. *Pediatrics* 1987; 80:650-658; *disabled infant, handicap, developmental disability.*

The concept of developmental risk in young children and interest in the efficacy of early intervention services are matters of growing concern. Although resource allocation for both research and service delivery during the past two decades has focused largely on the consequences of socioeconomic disadvantage, increasing attention is being directed to the needs of biologically vulnerable infants. With the recent passage of the Education of the Handicapped Act Amendments of 1986 (Public

Law 99-457), new federal incentives are now available for states to develop family-centered, community-based services for handicapped infants beginning at birth.

As the professional best situated to identify infants with developmental delays or disabilities, the primary care pediatrician is urged by increasing numbers of early childhood advocacy groups to refer such children to early intervention programs. Yet, conclusive data on program effectiveness and criteria for determining whether a specific service model will meet the individual needs of a given child and family are unavailable. Whereas some treatment programs (eg, "patterning") have been criticized for their exaggerated promises and excessive demands on families,¹ the generalization of such criticism to all early intervention efforts is unwarranted. Much of the literature on more conventional services for handicapped infants, however, is published in journals that few pediatricians read. In many communities, physicians learn about the philosophy and logistics of early intervention through their contacts with local service providers; in others, programs are unavailable.

Although there have been numerous reviews of studies on early intervention services, few have concentrated on research that relates only to infants with disabilities. Indeed, most of the reviews focus on programs for socioeconomically disadvantaged preschoolers and acknowledge the limited number of rigorous studies conducted on the handicapped population.²⁻⁷ Even the most extensive reviews of early intervention programs for children with disabilities focus on methodologic issues, not on outcomes.^{8,9} For example, in reviewing 27 studies, Simeonsson et al⁸ found that statistical procedures were used to analyze data in only 59% of the reports; yet, 93% reported program success.

By using the techniques of meta-analysis,^{10,11} a method of data aggregation that uses summary

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