

Literature Review

Abstract

* This literature review was conducted to evaluate the current state of evidence supporting communication interventions for individuals with severe disabilities.

*Authors reviewed 116 articles published between 1987 and 2007 in refereed journals meeting three criteria

(a) described a communication intervention

(b) involved one or more participants with severe disabilities

(c) addressed one or more areas of communication performance

*The evidence reviewed indicates that 96% of the studies reported positive changes in some aspects of communication.

*These findings support the provision of communication intervention to persons with severe disabilities.

*Gaps in the research were reported with recommendations for future research.

The ability to communicate effectively with others is essential for good quality of life.

Individuals who have severe disabilities include those with severe to profound intellectual disability, autism, deaf-blindness, and multiple-disabilities.

For these individuals, the ability to communicate can be substantially compromised. The question of whether and how this ability to communicate can be improved through

intervention was the focus of a national consensus conference convened by the U.S. Department of Education's Office of Special Education Programs, (OSEP) and its Technical Assistance Development System (TADS) in 1985 (OSEP/TADS, 1985)

This recommendation resulted in the establishment of a "National Joint Committee for the Communicative Needs of Persons with Severe Disabilities" (NJC) in 1986

The present review was conducted by current members of the NJC, which included representatives from the American Association of Intellectual and Developmental Disabilities,

American Occupational Therapy Association, American Physical Therapy Association, American Speech-Language and Hearing Association, Council for Exceptional Children/Division for Children with Communication

Disabilities and Deafness, TASH (formerly The Association for Persons with Severe Handicaps), and the United States Society for Augmentative and Alternative Communication.

Evidence-Based Practice

In the past five years, much has been written about the importance of basing medical, therapeutic, and educational interventions on high quality, empirical evidence.

This focus on the need for more evidence-based practice, or EBP, can be found across all of the disciplines represented on the NJC in the form of articles, position statements, and special issues of our journals.

While there is no universal agreement on what constitutes EBP, or how to evaluate the relative quality of available evidence, there are some clear areas of agreement.

“The term evidence-based practice’ refers to an approach in which current, high-quality research evidence is integrated with practitioner expertise and client preferences and values into the process of making clinical decisions”

The multiple professions represented on the NJC also share some common expectations as to what constitutes high-quality research evidence.

It is generally accepted that the highest level of evidence quality is produced by a randomized clinical trial (RCT)

A prospective study using randomized assignment of participants with double-blind controls (Committee on Educational Interventions for Children with Autism, 2001; Shavelson & Towne, 2002).

So, while it may not be realistic to look for RCT designs in intervention studies involving individuals with severe intellectual and developmental disabilities, the design features themselves that contribute to internal and external validity of these studies can be examined.

These quality indicators include:

- (a) accurate and complete description of participant characteristics, especially traits likely to be related to the study’s dependent measures
- (b) replicability of study procedures, including precise description of how the procedure was implemented, the intensity (how often? for how long?) and duration of treatment
- (c) reliability of data reported (i.e., do the data accurately reflect participant characteristics and results of intervention?) including both inter-and intra-rater reliability
- (d) the maintenance and generalization of treatment results to participants’ daily lives, and the perceived value of results

Purpose of This Review

We took this methodical review of the literature to address three broad and basic questions:

1. What are the characteristics of the research evidence that supports the delivery of communication interventions to individuals with severe disabilities?

2.What is the nature and quality of the evidence?

3.How can these findings inform specific needs for future research?

This review differs from others recent reviews of communication intervention research in its broad focus on individuals with severe disabilities, in the period of time addressed.

Method

This systematic literature review examined published communication intervention research conducted with individuals with severe intellectual and developmental disabilities during a 20-year period between 1987 and 2007.

The initial search for the period of 1987 to 2006 was carried out by the National Center for Evidence-Based Research Practice in Communication Disorders of the American Speech-Language-Hearing Association.

A four-step search process was applied to identify a pool of research articles meeting these requirements. First, 13 electronic data bases were searched: CINAHL, Combined Health Information Database, ERIC, Education Abstracts,

Exceptional Child Education Resources, Health Source: Nursing, Linguistics and Language Behaviour Abstracts, PsycARTICLES, PsycINFO, PubMed, Science Citation Index, ScienceDirect, Social Science Citation Index. Thirty-one search

terms were used to select potential studies [e.g., Augmentative or Alternative Communication (AAC), Augmentative Communication, Communication, Emergent Communication]; the full list is available on the NJC website.³ After this initial search,

47 expanded search terms were created and applied (e.g., “Communication” [MeSH Major Topic] AND (augmentative OR alternative OR emergent OR nonsymbolic OR presymbolic OR intentional OR symbol* OR speech generat*). .

Third, the reference lists of all relevant articles identified were scanned for other possible studies. Finally, all publications authored by NJC members were searched. This search process generated a pool of 269 potentially relevant articles.

Review Procedure

The pool of 269 potentially relevant articles identified through the search was divided evenly among the first six authors who read, coded, and entered their ratings for every assigned article into the instrument on the web-based survey platform.

Each article in this pool was examined using a stepwise process: articles judged to not meet all three inclusion criteria were not evaluated beyond these inclusion items; articles judged to meet all three inclusion criteria were included in the database and evaluated using the entire instrument.

To be included in the database, each article had to meet three inclusion criteria and thus be judged as a study that:

(a) described an intervention.

(b) included one or more participants of any age with severe disabilities.

(c) applied an intervention addressing one or more areas of communication performance.

For the third criterion, “communication performance” was defined as: learning to understand and/or produce communication messages to a communication partner, using any mode including graphic, natural gestures, sign language,

speech, picture symbols, etc., and addressing one of the following functions: requesting, commenting, protesting, conveying social niceties, answering questions, repairing after a breakdown”.

Results

Characteristics of the Research

Number, gender, and chronological ages of participants Reviewers identified number, gender, and ages of the participants with severe disabilities in each study. A total of 461 participants with severe intellectual and developmental disabilities

were reported in the 116 studies in the database, with a range of 1 to 41 participants and a mean of 4.0 participants. Of these, 287 were male and 174 were female. The average age of these participants was 13.7 years.

When a study had one or more participants judged to have severe disabilities and other participants who did not, we included only the information for participants who were judged to have severe disabilities.