The Effects of Early Intervention on the Expressive Language Outcomes of Children with Autism Spectrum Disorder: A Systematic Review

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A Systematic Review

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Background

• Autism Spectrum Disorder (ASD) is characterized by persistent challenges in social communication as well as restricted and repetitive behaviors, and is often observable in early childhood.

• Expressive language delays are common in young children diagnosed with ASD.

• Early intervention can lead to positive outcomes in the symptoms of children with ASD.

• Early intervention is being considered any speech and language services provided before a child is 5 years (60 months) of age.

Objective

To determine whether early intervention of ASD in children between 0-59 months of age has positive effects on expressive language development.

Methods

• Databases Searched: PubMed, PsyhCINFO, LLBA, CINAHL, ERIC

• Studies were hand-selected based upon relevance.

• Selected studies were required to meet the inclusionary and exclusionary criteria, then 'graded' based on their quality and rigor

• Inclusionary criteria: Children between 0 and 59 months of age with a diagnosis of ASD, early intervention speech and language services provided, behavioral interventions, and expressive language (i.e., verbal skills, use of AAC devices, sign language) as an outcome measure.

• Exclusionary criteria: English language learners, bilingual speakers of English, other developmental disabilities as a primary diagnosis (e.g., genetic disorders, acquired brain injuries), PT, OT, or Special Education early intervention services in the absence of speech/language services, and single-case studies.

Results

Table 1. Study Characteristics Table

<table>
<thead>
<tr>
<th>Author(s)</th>
<th>Age at Intervention</th>
<th>Study Design</th>
<th>Method</th>
<th>Average Frequency of Intervention</th>
<th>Outcome Measures</th>
<th>Conclusions</th>
<th>Limitations and Bias</th>
<th>Level of Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dawson et al. (2014)</td>
<td>50-54 yrs</td>
<td>RCT</td>
<td>2 groups: ESDM (45 hrs/week) vs. 'tx as usual' (15 hrs/week)</td>
<td>MSEL, EEG, VPT, ADOS, BBSS</td>
<td>Greater expressive language development</td>
<td>High positive effects observed in the ESDM group</td>
<td>Confounding by study site, intervention bias, selection bias, attritional bias, variable amounts of tx.</td>
<td>High</td>
</tr>
<tr>
<td>Ferrier et al. (2015)</td>
<td>48-59 yrs</td>
<td>RCT</td>
<td>2 groups: ESDM + AAC (12 hrs/week) vs. 'tx as usual' (3 hrs/week)</td>
<td>MSEL, VPT, BBSS</td>
<td>Greater expressive language development</td>
<td>High positive effects observed in the ESDM + AAC group</td>
<td>Confounding by study site, intervention bias, selection bias, attritional bias, variable amounts of tx.</td>
<td>High</td>
</tr>
<tr>
<td>Howard et al. (2018)</td>
<td>36-42 yrs</td>
<td>Before 48 mos</td>
<td>Longitudinal</td>
<td>Follow-up at 1-2, 4, and 6 mos post-intervention</td>
<td>MSEL, WAIS-IV, BBSS</td>
<td>Greater expressive language development</td>
<td>High positive effects observed in the ESDM group</td>
<td>Confounding by study site, intervention bias, selection bias, attritional bias, variable amounts of tx.</td>
</tr>
</tbody>
</table>

Discussion

• The overall quality of the studies was moderate.

• Early intervention may lead to positive outcomes in expressive language development.

• Intervention is most effective when intervention occurs before the child is 40 months old.

• Intervention is most effective when administered at least 25 hours/week by trained clinicians.

• Long-term gains in expressive language are associated with behaviorally-based interventions.

Recommendations

• When investigating the effects of early intervention on language development, future research should prioritize high-quality study designs (i.e., randomized control trials) with larger sample sizes.

• Clinicians working with young children with ASD should implement behaviorally-based, empirically-supported interventions, such as the Early Start Denver Model (ESDM) or Pivotal-Response Training (PRT).

• Additional intervention (e.g., ESDM) provided outside of community-based intervention (e.g., preschool) often supports improved developmental outcomes for children with ASD.

Selected References


