The Efficacy of Joint Attention Interventions on Play Skills in Children with Autism Spectrum Disorder: A Systematic Review

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The Efficacy of Joint Attention Interventions on Play Skills in Children with ASD: A Systematic Review
Esselstyn, F. B., Hall, E. R., & Winkel, A. E.

Background

- Children with Autism Spectrum Disorder (ASD) often present with social-communication deficits
- Two of these deficits are joint attention and play
- Joint attention is associated with positive outcomes in both language and social interaction
- Play is shown to improve overall social development and engagement
- Play can be classified as functional or symbolic
- ASD can be diagnosed as young as two years old
- Early intervention is known to improve long term outcomes in children with ASD
- Joint attention (JA) intervention research indicates positive gains in both joint attention and language skills.

Objective

To determine if early joint attention interventions have any measurable positive effect on play skills.

Methods

Systematic Review Protocol

- Data sources: OVID MEDLINE, PsychINFO, ComDisDome, CINAHL, ERIC, & LLBA
- Inclusion criteria: Birth 5-years of age, formal diagnosis of ASD, peer-reviewed articles written in English, quantitative studies, articles published since 2000
- Research Method: Search terms included joint attention intervention or training, JA, play, Autism*, and ASD
- Researchers reviewed all abstracts to determine if they warranted full-text review
- Two researchers completed full-text review for each article identified
- Data extraction and quality of evidence were assessed for each article by one researcher
- Figure One shows the number of articles reviewed at each step and the number of articles rejected

Selected References


Table 1: Study Descriptions and Outcome Results of Joint Attention Interventions on Play

<table>
<thead>
<tr>
<th>Study</th>
<th>Design Type</th>
<th>Quality Level</th>
<th>Type of JA Intervention</th>
<th>Comparison Group</th>
<th>Positive Change in Play Skills</th>
<th>No Change in Play Skills</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chang et al. (2016)</td>
<td>3 (RCT n&lt;100)</td>
<td>7/10 High</td>
<td>JASPER</td>
<td>Waitlist Group</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>Goods et al. (2013)</td>
<td>3 (RCT n&lt;100)</td>
<td>6/10, Moderate</td>
<td>JASPER</td>
<td>ABA-based intervention</td>
<td>Play type (type not specified)</td>
<td></td>
</tr>
<tr>
<td>Kasari et al. (2001)</td>
<td>7 (Single subject, pretest-postest)</td>
<td>4/7 Moderate</td>
<td>JA Intervention</td>
<td>Compared to self at pre- &amp; post- test levels</td>
<td>S, F</td>
<td></td>
</tr>
<tr>
<td>Kasari et al. (2006)</td>
<td>3 (RCT n&lt;100)</td>
<td>7/10 High</td>
<td>JA Intervention</td>
<td>SP Intervention and Waitlist Group</td>
<td>S, F</td>
<td></td>
</tr>
<tr>
<td>Kasari et al. (2008)</td>
<td>3 (RCT n&lt;100)</td>
<td>8/10 High</td>
<td>JA Intervention</td>
<td>SP Intervention and Waitlist Group</td>
<td>S, F</td>
<td></td>
</tr>
<tr>
<td>Kasari et al. (2010)</td>
<td>3 (RCT n&lt;100)</td>
<td>8/10 High</td>
<td>JA Intervention</td>
<td>Waitlist Group</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>Kasari et al. (2014)</td>
<td>2 (RCT n&gt;100)</td>
<td>7/10 High</td>
<td>Caregiver-Mediated Module (JASPER)</td>
<td>Caregiver Education Module (JASPER)</td>
<td>S</td>
<td>F</td>
</tr>
<tr>
<td>Kasari et al. (2015)</td>
<td>3 (RCT n&gt;100)</td>
<td>8/10 High</td>
<td>Caregiver-Mediated (JASPER)</td>
<td>PEI</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>Shire et al. (2017)</td>
<td>2 (RCT n&gt;100)</td>
<td>9/10 High</td>
<td>JASPER</td>
<td>Waitlist Group</td>
<td>F</td>
<td>S</td>
</tr>
<tr>
<td>Whalen et al. (2006)</td>
<td>7 (Single subject, multiple baseline)</td>
<td>4/8 Moderate</td>
<td>JA Intervention</td>
<td>Compared to other at pre- and post- treatment</td>
<td>S, F</td>
<td></td>
</tr>
<tr>
<td>Wong (2013)</td>
<td>3 (RCT n&gt;100)</td>
<td>9/10 High</td>
<td>SP-JA and JA-SP</td>
<td></td>
<td>S, F</td>
<td></td>
</tr>
</tbody>
</table>

Note: RCT = Randomized Clinical Trial; JA = Joint Attention Intervention; SP = Symbolic Play Intervention; JASPER = Joint Attention, Symbolic Play, Engagement, and Regulation; PEI = Psychoeducational Intervention; S = symbolic play skills; F = functional play skills

Conclusions

- Small sample size and duration of research intervention
- Selection Bias
- Lack of consistency with mediators, targeted skills, and environments across intervention approaches
- Inability to determine the causality of the increase in play skills

Recommendations

- Future research should aim to:
  - Incorporate larger sample sizes from a geographically diverse population
  - Standardize joint attention interventions in terms of duration, frequency, and administration
  - Better understand the collateral effects of joint attention interventions on foundational social communication skills
- Future systematic reviews should aim to review one single type of joint attention intervention

Department of Communication Sciences and Disorders