**Abstract**

- **Purpose:** To critically evaluate current research in naturalistic and developmental interventions for autism
- **Method:** Multiple keyword searches of databases and manual searches of article references were conducted to find relevant abstracts. These articles were reviewed more thoroughly, and a final body of 30 articles were selected for review in this study.
- **Results:** There was a substantial shift from clinician-mediated to parent-mediated intervention. Identification of early ASD markers has facilitated a move toward earlier intervention.
- **Conclusion:** Intervention has shifted toward a naturalistic, developmentally-based model which is supported by research. However, study designs still require improvements such as larger n, more specific comparison groups, and follow-up data.

**Methods & Analysis**

- The initial search consisted of keyword searches in the following databases through the University of Delaware’s DELCat Discovery system:
  - Academic OneFile
  - General OneFile
  - WorldCat.org
- Search terms included “play based intervention autism,” “relationship development intervention” “pivotal response treatment” and others.
- The initial search returned 2,196 titles.
- Titles were reviewed for apparent relevance and 52 abstracts were selected for further review.
- Studies with an n of 1 were excluded.
- A manual search of the references in these articles as well as websites associated with the interventions were reviewed for further relevant resources.
- After completion of this process, 30 articles remained for review.
- These are listed in the table below.

**Results**

- Several trends were noted in the overall body of research:
  - **A shift toward parent as primary interventionist**
  - **Benefits**
    - Parent can provide treatment within the child’s daily routine to improve generalization
    - Child is more comfortable with parent
  - **Limitations**
    - Parents in studies were volunteers and may not represent the typical parent population
    - Difficult to monitor parent fidelity in real world scenario
  - **Move to begin intervention at an earlier age**
    - Several studies found positive and sustained benefits from intervention with toddlers (Dawson et al., 2010, Estes et al., 2015, Kasari et al., 2015, Steiner et al., 2013).
    - Early intervention is also supported by neurological research.
    - Young children who had received early intervention had brain activity which more closely resembled their peers in areas of attention, engagement, and social stimuli processing (Dawson et al., 2012).
    - More likely to associate social interaction with reward (Venkataraman et al., 2016).

**Introduction**

- Treatments in autism are shifting to a naturalistic and developmentally-based model.
- These treatments have emerged out of very different schools of thought, but they have certain key elements in common:
  - They are designed to be implemented in the child’s natural environment to increase generalization.
  - They do not target skills in isolation but are focused on achieving developmental milestones to help the child progress along a predictable trajectory.
- Despite a growing body of research into this type of treatment, there has been very little done to consolidate and evaluate it.

**Table of Research**

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**Conclusions & Future Research**

- **Interventions for autism have changed.**
- The focus has shifted from isolated clinic-based treatments to intervention in the child’s natural setting either within play or during the daily routine.
- The role of the clinician has also changed.
  - In many cases, the clinician coaches the parents on the intervention.
  - The parents provide the direct intervention to the child.
- **Skills are targeted to line up with developmental milestones.** Activities follow along with these milestones to help the child progress.
- A growing number of studies have emerged in recent years which show promising results for these naturalistic developmental interventions.
- **Future studies should make the following changes:**
  - Increase sample size
  - Compare their interventions to specific alternatives
  - Conduct follow-up studies
  - These changes would help to strengthen results and provide data on the true long-term impacts of these relatively new but promising interventions.