Title: Help Is in Your Hands: A Pilot Study of a Parent Mediated Online Training for Children with Autism

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Introduction: One in 59 children in the U.S. has autism spectrum disorder (ASD)(CDC, 2018). Quality early intervention (EI) before the age of five is considered critical to improving cognitive, social, and language development in this population (Wallace & Rogers, 2010), but many young children with ASD do not have access to EI. A range of systemic problems contribute to insufficient access to EI, including a shortage of professionals, disjointed care coordination, and costs of services. In order to meet the needs of families and children with ASD or at-risk for ASD, it is imperative to develop means to deliver EI that can surmount these barriers. Early Start Denver Model (ESDM) is an evidence-based approach for young children with ASD. ESDM is based on validated educational, behavioral, and developmental science practices for intervening with and monitoring all areas of development and problem behaviors affected by ASD (Dawson et al. 2010). Studies have examined parent-mediated outcomes using ESDM as well as other developmental-behavioral early interventions employing strategies like ESDM and found that parents are able to learn EI techniques and use them with their children (Rogers et al., 2019). Given the known benefits of EI, an important research and clinical question is – how can we expedite the dissemination of EI to children through parents in order to increase EI accessibility? In the current era of information, videos are one of the most popular ways for adults to learn new skills (Hague, 2009). Effective online training will lead to greater access to EI for children with ASD who otherwise lack access. To address this need, we developed Help Is In Your Hands (HIIYH), a brief video-based online training program to teach parents ESDM techniques remotely. The HIIYH video training included 4 modules (10-15 minutes long), each focusing on one of the ESDM practices. HIIYH was developed as part of an IES funded research study examining our ability to improve ASD EI services in several low-income areas of the US. The aim of the current pilot project was to evaluate the preliminary effectiveness and usability of the HIIYH video training by parents without facilitation from an EI provider. We hypothesized that (1) parents would use more ESDM techniques after watching the video modules, (2) children would show more communication skills after parents viewed the HIIYH series, and (3) parents would finish the whole online training within 12 weeks.

Method: Four parents of toddlers participated in this quasi-experimental, pre-post pilot study. The toddlers were 18-36 months old and had received a diagnosis of ASD or were at risk for ASD, documented in a report written by a licensed professional. At the beginning of the study, each parent submitted a 3-5-minute video of themselves interacting with their child. After submitting the video, the parents received access to the Help is in Your Hands training videos. Usage data was pulled directly from the website and provided information about the number of participants who watched each video module. After 12 weeks, the parents uploaded another video of themselves playing with their child and responded to open-ended feedback questions online. Coders naïve to the timing of the videos evaluated the parent-child interactions using the ESDM Treatment Fidelity Rating System (Rogers et al., 2012). This is a 13-item, 5-point Likert-scale measure. Each point was anchored with a description of quality, with higher scores representing better implementation of ESDM techniques that were taught in HIIYH. We also evaluated the child’s social and communication skills using Vismara et al (2018)’s Social Communication Measure, measuring the frequency of three types of social communication behaviors in children: (a) Spontaneous, unprompted functional verbal utterances of single words or approximations directed to the parent with body orientation to request or comment about an item or action; (b) imitative functional, related play actions on objects and manual actions without objects done within 3s of the parent’s modelled action; and (c) unprompted, nonverbal joint attention behaviors of eye gaze alternation with or without gestures directed to the parent to share interest or enjoyment in the activity. At the end of the study, parents also provided feedback by answering two open-ended questions. Descriptive statistics were used to report initial results.

Results: All the participants were able to access the video modules and watch the training. Two participants completed the video training during the 12-week study, the other two participants completed 50%-70% of the video modules, during the 12 weeks. Overall, parents used more ESDM techniques after viewing the HIIYH video modules. Their ESDM fidelity mean scores increased from 3.81 (SD = .50) to 4.18 (SD = .47). Children also demonstrated more social communication skills after their parents watched the HIIYH video modules. Their mean scores increased from 6.75 (SD = 5.38) to 10.00 (SD = 4.55). The parents all watched at least 50% of the video modules and provided feedback. The qualitative feedback from parents indicated that they valued specific ESDM techniques that they learned and were able to apply with their children. Two parents suggested having a more interactive training that would provide an opportunity to ask questions about the video modules.

Discussion: This pilot study suggests that parents were able to learn ESDM techniques simply by watching the HIIYH video modules. The parents were also able to implement the techniques they learned when interacting with their child. Overall, the
parents were satisfied with the HIIYH video modules. Providing a virtual space for parents to ask questions and discuss the video training may further improve the video training. These preliminary results suggest that the HIIYH videos could be used to deliver free, brief, minimal-dose, parent-mediated ESDM for families in need. More research is needed to further develop the HIIYH video modules and evaluate their effectiveness in a larger sample.

References:


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