

Abstract

Is Telehealth a Feasible Mode of Intervention Delivery to Improve Social Communication Skills in Children With Autism Spectrum Disorder? Results From a Pilot Randomized Controlled Trial

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Abstract

Background: Children with autism spectrum disorder (ASD) demonstrate impaired verbal and nonverbal communication, deficits in emotional regulation, higher rates of repetitive behaviors, and poor motor planning and body coordination. Our past studies have demonstrated that engaging in rhythmic movement interventions can advance gross motor skills while promoting spontaneous verbalization, joint attention, and improved behavioral regulation in children with ASD.

Objective: This study compares the effects of 2 whole-body movement interventions to a standard-of-care intervention on social communication skills in children with ASD. Due to the pandemic, the study transitioned from face-to-face intervention (F2F) to a telehealth (TH) format. This poster will compare the efficacy of F2F and TH intervention delivery modes in promoting social communication skills.

Methods: A total of 45 children with ASD between 5 and 14 years old participated in a 10-week study. Children were randomly assigned to receive 8 weeks (2 sessions/week, 60-75 minutes/session) of creative movement (play), general movement (move), or seated play (create) training. Training sessions involved interactions between the child, an expert trainer, an adult model, and caregivers. Outcome measures include training-specific measures of the percent duration of socially directed and self-directed verbalization (with respect to the total verbalization time) measured during early and late training sessions as well as the type of verbalization (spontaneously initiated versus in response to partner bidding or prompting). We will also compare the magnitude of training-related change in verbalization in children seen F2F versus via TH.

Results: In all groups, children engaged in greater social versus self-directed verbalization during early and late training sessions. The move group showed an increase in social verbalization with respect to the total session duration from early to late sessions (mean early 11.4, SE 1.5; mean late 15.6, SE 2.0; $P=.02$). These improvements were in children seen F2F (67% of children) and via TH (80% of children). Within social verbalization, children in all groups verbalized more toward the researchers compared to family members during training sessions. Specifically, children in the play group demonstrated an increase in percent duration of social verbalization toward the researchers (trainer and model) from early to late session (mean early 61.9, SE 6.8; mean late 70, SE 6.8; $P=.03$). Children seen via TH started at lower baseline levels of social verbalization, compared to their F2F counterparts, but showed a significant increase from early to late sessions (TH: 71% and F2F: 62.5% of children improved). In terms of verbalization type, the move and create groups engaged in greater responsive verbalization compared to the play group across early and late sessions. The create group did not show any increase in social verbalization with training irrespective of intervention delivery mode.

Conclusions: Our preliminary data suggest that the whole-body movement interventions can be used to foster social verbalization in children with ASD. The study adds to the pre-pandemic evidence on the feasibility of implementation and utility of TH-based intervention delivery in the care of children with ASD. Clinicians may choose TH-based intervention delivery to build a rapport with children to address the core impairments in ASD, provided that caregivers are available during TH sessions to ensure child engagement and compliance.

Conflicts of Interest: None declared.

Trial Registration: ClinicalTrials.gov NCT04258254; <https://clinicaltrials.gov/show/NCT04258254>

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KEYWORDS

autism spectrum disorder; children with ASD; social communication; communication skills; adolescents; autistic; autism; verbalization; rhythmic movement; creative movement; music

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