

More evidence needed to support use of autism interventions

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Interventions designed to improve core deficits in children with autism spectrum disorders are supported by varying levels of evidence, highlighting the need for well-designed studies to better evaluate the interventions, according to a new RAND Corporation study.

Researchers found that when they evaluated the past research on a wide variety of interventions aimed at improving core deficits in social/communication, language, behavior and adaptive skills, the evidence of efficacy ranged from moderate to insufficient. The findings are published in the November edition of the journal *Pediatrics*.

"We reviewed the evidence that exists for widely used interventions for autism and found there was no more than moderate evidence demonstrating the benefits of any of the approaches," said Margaret Maglione, the study's lead author and a policy analyst at RAND, a nonprofit research organization. "What's needed are new, well-designed studies that are large enough to tease out the effects of different components and which types of children are best suited for the interventions."

The study concludes that head-to-head trials of competing autism treatments are needed to identify which programs are superior and additional work should follow study participants long-term to further examine the effectiveness of treatments.

Researchers conducted the project by closely examining information

from more than 100 studies that contained at least 10 children or adolescents. The information was reviewed by an expert panel of practitioners, researchers and parents assembled to systematically evaluate the level of evidence for a wide array of behavioral autism treatments and develop priorities for future research.

The expert panel agreed there was enough evidence to endorse the use of applied behavioral analysis, integrated behavioral/developmental programs, the Picture Exchange Communication System and various social skills interventions for Asperger's syndrome and high-functioning autism. In addition, they agreed that children with [autism spectrum disorders](#) should have access to at least 25 hours per week of comprehensive interventions (often called "intensive early intervention") to address social communication, language, play skills and maladaptive behavior.

No treatment was supported by evidence considered stronger than "moderate." Treatments in this category are supported by reasonable evidence, but include the caveat that further research may change the confidence about the results. In contrast, a treatment supported by a high level of evidence is unlikely to be changed by further research.

Based on the gaps in the evidence, the panel recommends that future research focus on assessment and monitoring of treatment outcomes, address the needs of preverbal and nonverbal children, and identify the most effective strategies, doses and duration of therapy needed to improve core deficits. Importantly, little research on adolescents and young adults was identified, other than for social skills programs for Asperger's or high-functioning autism. Thus, the panel recommends that adolescents and young adults be a priority population.

Autism spectrum disorders are a group of developmental disabilities characterized by deficits in social interactions and communications that

influences development into adulthood. The disorders have emerged as a major public health issue in recent years, with the number of children diagnosed with an autism spectrum disorder in the United States is estimated to be 500,000 to 673,000.

The expert panel assembled by RAND researchers concluded there was moderate evidence that comprehensive intervention programs are effective at improving cognitive abilities among children with an [autism](#) disorder. While there have been promising results in the areas of language, adaptive skills and IQ, evidence remains insufficient to suggest that one behavioral curriculum is better than another, said Maglione, associate director of the Southern California Evidence-based Practice Center.

The study also found there was moderate evidence that auditory integration training is not effective, and there was insufficient evidence about the efficacy of augmentative and alternative communication devices. The expert panel could not come to consensus about the scientific evidence for sensory integration, deep pressure therapy and exercise.

Provided by RAND Corporation

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